SSCI 412L GeoDesign Practicum

Spring 2017 — M 2:00–5:50 P.M.

Location: Allan Hancock Foundation (AHF) 145D

Instructor: Travis Longcore, Ph.D.

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1   Catalogue Description

SSCI 412L GeoDesign Practicum

Application of design concepts, planning protocols and spatial analysis skills to a complex planning or design problem sponsored by a local public, private or not-for-profit client in a studio setting.

2   Introduction

The topic for the 2017 practicum is the development of trail system in eastern San Diego County on lands that have multiple environmental and social considerations in the City of Chula Vista and unincorporated County of San Diego. The area is growing in population, with new developments permitted and being constructed. At the same time, a reserve system has been set aside to protect natural landscapes and particular endangered species. Navigating between the desire for different types of recreational opportunities, multiple landowners with different mandates, and required resource protection is a perfect challenge for a GeoDesign approach. We will integrate data about demographics, existing trails, regulations, species distributions, and planning guidelines to propose an approach to this trail system to present to the managers of these open space lands.

The outline that follows provides the structure and rules that should be necessary to embark on this ambitious 15-week project. For a successful project, it is important that:

- Students operate independently as a professional team;
- All parties develop a high level of trust and spirit of collaboration;
- Students and faculty are responsive to clients while conducting independent research;
- Communication between parties is professional and frequent; and
- Students feel comfortable to make decisions, make mistakes, and learn from the experience.

2.1 Academic Units and Grading

Students will work in groups but will be graded separately. It is *not* required that all students in a project receive the same grade, although the instructor may choose to do so.

At the end of the semester, students are required to complete self-evaluations and peer evaluations and submit them to their instructor by the last day of classes. The faculty will consider these evaluations in assigning grades.

Grades will not be assigned until the group has submitted and the instructor has approved the final report.

2.2 Student Time Commitment

Students should expect to devote, on average, 10 hours a week to the Group Project, although more hours can be expected. This time includes class meeting time and field trips as appropriate for each project. Progress on Group Projects should be evenly allocated over the semester to avoid excess workload during the last few weeks. At least one field trip is planned and students should be prepared to accommodate a one or two day excursion to San Diego County.

2.3 Required Work Products

The required work products for each group include:

- A literature review and project proposal
- Proposal presentation
- Draft report
- Final report, including an executive summary
- Presentation of the final report
- Peer evaluations

2.4 Authorship/Ownership

Each member of the group, along with the faculty instructor for that group, is an equal owner of the data collected during the project. That means that each member of the group can use the data even after the project has ended. Papers, posters, presentations, and other derivative products that arise from the data collected during the project must acknowledge every member of the group in a manner that is appropriate to the group's contribution to the derivative product.

2.5 Data Distribution

Datasets and processed datasets that may have been obtained/derived during your work may be licensed or copyrighted or confidential. You should *not* make them available to third parties without authorization from your faculty advisor *and* the original source of data. Also, data should not be placed online unless the advisor and the owner of data have properly approved doing so.

2.6   Use of Human Subjects

Faculty and students that engage in research involving human subjects must first obtain prior approval from the Institutional Review Board (IRB). "Human Subject" means a living individual about whom an investigator (whether professional or student) conducting research obtains (i) data through intervention or interaction with the individual or (ii) identifiable private information. This means that even if you are just going to be conducting a survey, you MUST obtain IRB approval in advance. Approval is required no matter who you will be interacting with — even your friends or family!

3   Course Outline

The course will be organized around the following topics.

	Topics/Daily Activities	Deliverables/ Due Dates
Week 1 1/9	Introduction/Client Orientation	
Week 2 1/23	Literature Review/Project Planning	Review McHarg Book
Week 3 1/30	GeoDesign Summit	Watch Stienetz Lecture
Week 4 2/6	Work Session	Literature Reviews Due
Week 5 2/13	Draft Proposal Discussion	Project Proposal Due
Week 6 2/27	Lecture: Managing References; Work Session	Client Presentation
Week 7 3/6	Field Visit	
Week 8 3/20	Work Session	Client Update
Week 9 3/27	Ethical Writing Lecture/ Work Session	
Week 10 4/3	Graphics and Presentation Format Lecture	Impact Models Complete
Week 11 4/10	How to Write a Report Lecture	
Week 12 4/17	Parks, Pollution, and Obesity Conference	
Week 13 4/24	Planning Charrette	Project Elements Map for Topic Areas

Week 14 5/1	Draft Report Discussion	Draft Report Due
Week 15 5/8	Client Update	Client Update Presentation
Finals	Final presentation	Final Report Due

4   Important Administrative Dates*

1/9:Spring semester classes begin

1/16:   Martin Luther King's Birthday, university holiday

1/27:   Last day to register and add classes

TBA: Last day to change enrollment option to Pass/No Pass or Audit

TBA: Last day to drop a class without a mark of "W" and receive a 100% refund

2/20:   President's Day, university holiday

TBA: Deadline to submit signed Approval to Submit form to the Graduate School**

TBA: Deadline to upload thesis or dissertation manuscript**

TBA: Last day to drop a class with a mark of "W"

3/12-19: Spring recess, university holiday

4/28:   Spring semester classes end

4/29-5/2: Study days

5/3-5/10:   Final Examinations

5/12:   Commencement

*http://classes.usc.edu/term-20171/calendar/
**http://www.usc.edu/schools/GraduateSchool/current_thesis_dissert_03.html

5   Composition of Group Projects

5.1   Group Members

Each student is assigned to a group for the duration of the course. These groups will be selected by the instructor on the basis of expressed preferences and skills of the students.

5.2   Project Advisor

The instructor acts as the group advisor, and will actively monitor progress and provide technical assistance, expertise, and project evaluations. Project leadership and management and the quality of the final product are the students' responsibilities. The advisor meets with the group each week during the studio-style class period. The advisor may arrange for travel and facilitate interactions with the client and help to guide the scope of the projects. The advisor may offer reactive advice, reacting to activities in the group and giving advice when asked. The advisors may also give proactive advice regarding possible productive avenues for progress or regarding deficiencies and deadlines. It is important that students

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understand the role of the advisors and the limited, though important, role they play in directing the project.

5.3   Stakeholders and Clients

Projects will involve stakeholders (government agencies, industry, non-profits, and private citizens) and clients who have a considerable interest in the project and/or the resulting data. There may be confidentiality, proprietary data, legal, intellectual property, and/or political issues that will need to be carefully addressed by the groups. Students must respect the privacy of these stakeholders in a professional manner.

6   Required Work Products

6.1   Project Proposal

Each group prepares a prospectus for the project based on the needs of the client, their skills and aptitudes, and the available data. The elements of the project proposal will be:

Title Page

Introduction

Literature Review (see below)

Research Question(s)/Project Approach

Methods

Deliverables and Timeline

Management Plan (see below)

Literature Cited

The project proposal is limited to 20 single-spaced pages. This limit does not include the title page and literature cited. Further details and revisions of the proposal format may be provided by the group advisor.

6.2   Literature Review

One of the most important sections of the proposal is the background literature review. A considerable amount of the effort on the project should focus on obtaining relevant information, becoming extremely knowledgeable about the current state of knowledge related to a topic, and preparing a review of the literature as it relates to the project. The literature review should focus on peer-reviewed literature (journal articles, chapters from edited books, scholarly books) and government reports (which are often not peer-reviewed but are performed by credible scientists).

It is important that the literature review not be too narrowly focused. For example, if the group is analyzing improvements to transportation infrastructure, it will need to review literature related to that topic. In addition, if the group is going to be using scenarios as a tool for projecting future transportation needs, the literature search and review will also need to explore the use of this tool, even if the tool has never been used in transportation infrastructure studies before.

6.3   Management Plan

The Management Plan outlines a group's management structure and general plan for the form and function of their group. Ideally, the management plan will be completed within the first two weeks of the semester. It should specifically include:

Group structure and management. Includes a definition of the various "jobs" necessary to execute the project (e.g., publications manager, data/computing manager, project director, etc.). An organization chart is useful.

Meeting structure. How will meetings be run? Who calls meetings? Will some meetings include advisors and others not? Will minutes be taken and, if so, by whom?

Responsibilities of group members. Includes duration of positions in the case of rotating roles.

Systems to ensure deadlines are met.

Conflict resolution process. To deal with conflict within the group. A common problem in groups is the problem of the "slacker". It is better to decide on ways to deal with a slacker before anyone becomes a slacker. The starting point for dealing with a slacker is for the group to assume all or some of the responsibility for the problem. If there is a slacker, it is likely that the group is failing in some way to motivate that individual. The group's plan should first focus on motivating the individual. Methods for dealing with this problem include peer review, division of responsibilities, documentation of slacking behavior, and even the "firing" of a person from the group (though this action would need to be taken in concert with the instructors for the course).

Procedures for documenting, cataloging, and archiving information. Documents, contact information, messages, calendar, website, budget projections, and expenditures must be accessible to all Group Project members. This is an important task. If there are delays or failures, the entire project can be adversely affected.

Guidelines for interacting with advisors, clients, or consultants. What role will the advisors play? Do they want written progress reports? Do they want drafts of sections of the report? How much time do they require for document review? How frequently will you meet with your client? How will you keep your client informed of your progress? How will you deliver your product to advisors and clients—electronically or in hardcopy?

<u>Overall expectations of group members and advisors</u>. It is strongly recommended that you discuss expectations with your advisors. It will be useful to include in the management plan the expectations of the advisor, the expectations of students with regard to advisor involvement, and the grading criteria.

6.4   Proposal Presentation

At the scheduled time, each group will present their project proposal to the class and the client. The purpose of the review is for groups to gain critical feedback regarding their project's scope, the importance of the project, the proposed plan of work, and the potential implementation implications of the results. This review process will improve the real-world nature of the problems and solutions Group Projects pursue.

The proposal presentation should be approximately 20 minutes long with time for questions afterwards. One or two students should present; it is neither necessary nor advisable for every group member to speak.

6.5   Final Report

By the end of the spring semester, students must submit a final report of their group project. The deadline for the final report is firm. The final report provides a complete discussion of the project's goals, objectives, methodologies, and accomplishments.

Students should keep in mind that it is doubtful that they will be able to complete their reports by the end of spring semester if they do not present a high quality draft to the advisors by the time specified. Some advisors will expect drafts earlier and may require longer periods for review and comment than others. In general, students should expect that their advisors will require at least one week, but as many as two weeks, to complete a thorough review. It is likely that more than one iteration will be necessary before the advisors find the report to be acceptable. Thus, it is critical that students and advisors discuss and agree upon a realistic timeline and have consistent expectations in terms of turn-around time. The final report should not include information restated from the group's Management Plan.

The final report typically includes the following:

Title

Abstract (not to exceed 250 words)

Introduction

Methods

Results

Discussion

Literature Cited

Final reports must be free of typographical, formatting, and other errors. More details on final report format may be provided.

The final report should reflect that the group has 1) the ability to clearly articulate the problem orally and in writing; 2) the ability to clearly articulate the scope of the work; 3) the ability to clearly articulate how their work is related to larger related issue(s); and 4) the creation of original interpretations of the work of others and/or the generation of original data that leads to original interpretations.

Conclusions and recommendations in the report are to be based only on 1) original interpretation and synthesis of the work of others; 2) original data and interpretations of that data; and/or 3) a combination of 1 and 2. The unsupported expression of opinion in the final report is not appropriate.

When monetary support has been provided, acknowledgement must be made to individuals and/or organizations for their support of the project. Individuals or organizations that have contributed non-monetary support in the form of time, information or useful advice, should also be acknowledged if the Group Project members and advisors agree it is warranted.

Individuals and organizations have the right to refuse being acknowledged. Prior to finalizing acknowledgements, the group must inform any person to be acknowledged of its intent to do so in the report.

Adherence to accepted rules of citation is required. Groups should use the citation format established by the Spatial Sciences Institute for its graduate programs. Only readily retrievable sources are acceptable.

6.6 Final Presentation

Groups will present their final results as part of the GeoDesign lecture series at noon on Friday near the end of Spring semester. These presentations should be polished, professional, and accompanied by high-quality and error-free graphics.

6.7 Client Presentation

A presentation of the project will be scheduled at the client's convenience. Groups will work with the client to arrange the scope, length, and format of this presentation (oral, written, poster, workshop, etc.).

6.8 Self and Peer Evaluation

Each individual in the group must complete a self-evaluation and peer evaluations and submit them to the instructor by the last day of classes of the semester. Templates for these reviews will be posted to the course website.

7 Project Evaluation

Student performance in a Group Project is evaluated and graded based on demonstrated depth of understanding, critical thinking, interdisciplinary approach, originality, resourcefulness, professionalism, and communication skills. Specific criteria that faculty advisors will use in assigning project grades include:

1. A working understanding of the published literature and facts immediately relevant to the project. A literature review should be completed as part of the project proposal.

2. A critical perspective on the quality and shortcomings of prior work relevant to the project. This should include an identification of attempts to answer similar questions in other contexts.

3. A working understanding of the dimensions of the spatial, regulatory, scientific, and design issues of the project and an aggressive plan for integration of these perspectives into the project.

4. Originality of analysis, problem formulation, and scope of work. This should be demonstrated throughout the project.

5. Formation of working relationships with stakeholders and clients outside of USC. In some cases, outside advisors will be identified when the Group Project is proposed. In other cases, the students will have to identify stakeholders, sources of information, outside consultants, and/or experts who can provide benefit to the Group Project.

6. Resourcefulness. Throughout the project, students are expected to demonstrate initiative in finding information, identifying tools necessary to achieve their scope, seeking outside advisors, acquiring necessary funding, and establishing internships for themselves as appropriate.

7. Punctuality. Students are expected to deliver intermediate and final products on schedule.

8. Communication skills. Oral presentations and written reports should be well organized, scholarly, and well communicated.

9. Participation. Students are expected to participate and actively contribute in meetings, training sessions, and events.

8   Grading Scheme

Literature Review	15%
Project Proposal	20%
Proposal Presentation	5%
Draft Report	20%
Final Report	30%
Peer Reviews	10%

9   Textbooks

9.1   Required

McHarg, I.L. 1969. Design with Nature. Garden City, NY: Doubleday/Natural History Press.

Steinitz, C. 2012. A Framework for Geodesign: Changing Geography by Design. Redlands: Esri Press.

9.2 Recommended Reading

To come.

10 Statement on Academic Conduct and Support Systems

10.1 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/department-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.

10.2 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.

11 Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. More information about academic accommodations based on a disability can be found at: http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to an

instructor as early in the semester as possible. DSP is located in STU 301 and is open 8:30 A.M.–5:00 P.M., Monday through Friday. The phone number for DSP is (213) 740-0776.