

SSCI 350: International GeoDesign

Units: 4

Term — Day — Time: Summer 2015; June 1 – July 2, 2015

Location: UPC and the Netherlands

Instructor: Dr. Darren Ruddell

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Office Hours: Tuesdays 9:00 – 10:00 am; Thursdays 12:00 – 1:00 pm, and by appointment

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Course Description

This course is to introduce students to the critical and spatial thinking skills of GeoDesign while engaged in both classroom and field settings in Los Angeles, California, and in the Netherlands, and to apply them in a capstone research project that proposes GeoDesign strategies to address a societal challenge in Los Angeles County.

GeoDesign is a forward-thinking, interdisciplinary framework that pairs planning, design, and environmental systems with geospatial technologies to explore ways to build a better world. As interest and demand for sustainable development gains traction nationally, internationally, and across the USC campus, the use of GeoDesign principles will be increasingly valuable to address global challenges that foster human and environmental well-being. Europe is a region of the world that is particularly advanced in the integration of land management, transportation systems, ecological conservation, and high quality of life. The practice of GeoDesign in the Netherlands is centuries old, and the Dutch, in particular, have long been leaders in designing land uses to maximum efficiency while minimizing adverse environmental impacts. Land reclamation, alternative energy sources, and advanced transportation systems are hallmarks of Dutch ingenuity. Accordingly, Dutch leadership in sustainability and GeoDesign are worthy of student inquiry and investigation by means of an intensive field experience.

The field experience in SSCI 350 will examine GeoDesign applications in three unique locations, with Vrije University Amsterdam serving as home base. The first location is Amsterdam, the capital city of the Netherlands, which represents a large city with a rich diversity of people, commerce, and land uses. The second location is the historical town of Utrecht, located in central Netherlands, which boasts the Netherlands' largest university and a long tradition of integrating medium and high density housing, greenbelts, and bicycle paths. The third field location is the Port of Rotterdam, Europe's largest port, and the fifth largest port in the world. Students will utilize these experiences to interrogate applications of GeoDesign, and how these strategies may be applied in Los Angeles.

Learning Objectives

When you have completed this course, you will be able to:

- Articulate representative challenges of population growth, increasing urbanization and globalization, resource and land management, the widening gap between rich and poor, and the likely impacts of climate change across a variety of urban settings throughout the Netherlands;
- Describe ways in which these challenges have been addressed in exemplar Dutch settings;
- Compare successes and challenges in addressing these issues across the Netherlands and Los Angeles, CA;
- Describe a broad understanding (theoretical and practical) of the relationship between human and natural systems, how and why people transform natural

environments into residential, commercial, and/or industrial uses, and the impacts these decisions have on environmental vitality, economic sustainability, and human health and well-being.

Prerequisite(s): None

Co-Requisite (s): None

Concurrent Enrollment: None

Recommended Preparation: None

Course Organization

This course is a five-week intensive living-learning experience comprised of lecture sessions on the USC campus paired with a field experience in the Netherlands. The lecture sessions will utilize readings, discussions, presentations, and videos to introduce core concepts of GeoDesign, which include urban planning, redevelopment, land management, human-environment interactions, transportation systems, geospatial technologies, among other topics. The field experience will consist of a 14-day study abroad to the Netherlands where the class will engage applications and the theory of GeoDesign through guest lectures, field excursions, exploratory analysis, and an applied case study in GeoDesign. The GeoDesign case study will be organized with colleagues from Vrije University, and the focus of these efforts will be to develop a comprehensive water management plan for the Arnhem-Nijmegen region which seeks to provide long-term water resources for local residents while simultaneously preserving the ecological vitality of the area.

Technological Proficiency and Hardware/Software Required

The modeling software and geospatial data required for course assignments will be accessed using computing resources provided by the Spatial Sciences Institute and the Vrije University.

The social media site Twitter has been gaining tremendous currency in the academic world as an instrument for sharing information, commenting on issues related to higher education, as well as addressing challenges in a given field, such as GeoDesign. As such, it has achieved acclaim for its use as a pedagogical tool to extend the work of the classroom. We are going to use Twitter in this course to complement assignments, activities, and field visits, in addition to augmenting the analytical work of the class.

Required Readings and Supplementary Materials

Crain, W (1985) *Theories of Development*. Englewood Cliffs, NJ, Prentice-Hall

Dangermond, J (2009) GIS: Designing Our Future. *ArcNews* 31:6-7

Forman, R and M Godron (1986) *Landscape Ecology*. New York, John Wiley and Sons

McHarg, I (1969) *Design with Nature*. New York, Natural History Press
Miller, W (2012) *Introducing GeoDesign: The Concept*. Redlands, CA, Esri Press
Neutra, R (1954) *Survival Through Design*. New York, Oxford University Press
Steinitz, C (2012) *A Framework for GeoDesign*. Redlands, CA, Esri Press

Description and Assessment of Assignments

Your grade in this course will be determined on the basis of several different assessments:

Social Media Interactions: You will be required to chronicle field research and course activities via Twitter. Although we will sometimes use Twitter in the classroom, the bulk of your Twitter activity will take place outside of class. You will be required to tweet a minimum of 5 times per week. There are a few simple guidelines for tweeting: 1) they must be relevant to the class (i.e., a response to a reading, a link to a related article, a map or image, a question, etc.); 2) they must be substantive; and 3) they must be respectful. We will use hashtag #USCGeoDesign to ensure that tweets are incorporated into the class discussion. Any tweets that do not contain this hashtag will not be counted towards weekly activity. Your social media grade will be graded on a pass/fail basis. If you tweet the requisite number of times (a minimum of five tweets per week – or 5X5 = 25 total tweets), you will receive full credit. If not, then you will receive a 0.

Reading Assignments: You will complete 4 reading assignments that inform GeoDesign by providing 1-2 page reflections on the concepts, principles, and/or case studies covered in the readings.

Field Activities: You will be required to participate in all field experience activities for the course.

Field Experience Blog: You will create and maintain an online blog on activities, observations, and reflections of the field experience. The online blog is a great opportunity to express your creativity and interests in urban systems and GeoDesign. You are expected to post blogs on a regular basis.

Oral Presentation – topic proposal: You will prepare and deliver a 10-15 minute oral presentation in Powerpoint format proposing a topic of interest for your capstone research project

GeoDesign Proposal: You will produce a research paper (3,000 – 4,000 words) that integrates course concepts and case studies on GeoDesign while proposing a specific GeoDesign strategy in Los Angeles County.

Grading Breakdown

Assignment	# of Assignments	% of Grade
Oral presentation – topic proposal	1	10
Reading Assignments	4	10
Social Media Interaction	25	10
Field Experience Blog	1	20
Field Activities	10	20
GeoDesign Proposal – final presentation	1	30
TOTAL	42	100

Assignment Submission Policy

Assignments will be submitted for grading via Blackboard using the due dates specified in the Course Schedule below.

Additional Policies

Students are expected to attend and participate in a mandatory orientation session and every class session and to complete and upload all assignments before the deadlines detailed in the Course Schedule. Late work will be assessed a penalty of 10% per day and zero grades will be assigned for work that is more than one week late.

The anticipated number of contact hours between instructor and student for this course, which includes course meetings on the USC campus in addition to the two-week field experience, is 70 hours. Course meetings at USC comprise 18 hours (9 two-hour sessions); the field experience estimates 52 hours (13 days with approximate average of four hours per day).

Course Schedule: A Weekly Breakdown

	Topics/Daily Activities	Readings and Homework	Deliverables/Due Dates
Week 1 6/1/15 – 6/5/15	Module 1: Core Concepts of GeoDesign The first week of the course will be held on the USC campus in the Allan Hancock Foundation building (AHF), room B57A Monday through Friday from 10am-12pm. Students will be introduced to core concepts of GeoDesign through a combination of lectures, readings, discussions, and hands-on activities.	Read McHarg “Design with Nature”; Steinitz “A Framework for GeoDesign”	Complete by 6/5/15: Social media interactions Reading assignment 1 Reading assignment 2 Oral Presentation

<p>Week 2</p> <p>6/8/15 – 6/12/15</p>	<p>Module 2: Self-directed Research</p> <p>The second week of class (June 8-12) is for students to complete and reflect upon course readings, and then articulate a societal challenge in Los Angeles County that will serve as the topic of investigation for the capstone research component of the course. Work tasks for Module 2 will be completed independently. This can be accomplished from home or while traveling abroad.</p>	<p>Read Miller “Introducing GeoDesign: The Concept”; Dangermond “GIS: Designing Our Future”</p>	<p>Complete by 6/12/15: Social media interactions Reading assignment 3 Reading assignment 4</p>
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Weeks 3 & 4 6/13/15-6/27/15	Module 3: Field Experience: The Netherlands The headquarters for the field experience will be The Student Hotel in Amsterdam. The field experience will include research talks, site visits, and an applied GeoDesign case study. The case study will be coordinated with colleagues at Vrije University (VU) Amsterdam and will focus on developing a multi-use green zone leisure landscape in the Amstelland region (South of Amsterdam). Time spent during the field experience will involve: 1) lectures, field trips, and field work (estimated at 4 hours per day); 2) independent study time (two hours per day); and 3) personal/recreation time. The following represents the tentative schedule of the field experience: <i>June 13:</i> Arrive to Amsterdam, Netherlands – check in to The Student Hotel <i>June 14:</i> Tour of Amsterdam – guided bicycle tour; historical and cultural appreciation <i>June 15:</i> URD Conference, Rotterdam – presentations on GeoDesign 9am-5pm <i>June 16:</i> Field trip to Almere – presentation at New Towns Institute – 11am-1pm <i>June 17:</i> Field trip to Rotterdam: tour of Port and urban architecture – noon-5pm <i>June 18:</i> Visit to Geodan – presentations by Henk Scholten, Distinguished Professor, Vrije University and CEO of Geodan, Europe’s largest geospatial consulting group; and Eduardo Dias – spatial questionnaire – 10am-3pm <i>June 19:</i> Visit to Vrije University – UNIGIS 3D GIS Workshop and presentation by Niels van Manen, Lecturer, Spatial Economics and Geosciences at Vrije University – 10am-2pm <i>June 20:</i> Field trip to Van Gogh Museum and Holland Festival <i>June 21:</i> Free day <i>June 22:</i> Field trip to Utrecht – presentation by Martin Dijst, Department Head, Department of Human Geography and Spatial Planning, University of Utrecht <i>June 23:</i> Field trip to Amstelland – bicycle tour and examination of Dutch land reclamation efforts <i>June 24:</i> GeoDesign Case Study – field work in Amstelland <i>June 25:</i> GeoDesign Case Study – design proposals <i>June 26:</i> GeoDesign Case Study –	Read Crain “Theories of Development”, Neutra “Survival Through Design”	Complete by 6/27/15: Weeks 3 & 4 Social media interactions
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Week 5 6/29/15- 7/2/15	Module 4: Summary and Reflections on GeoDesign The course resumes on the USC campus (AHF B57A) to provide critical reflections on course concepts, the field experience, and final presentations for the course capstone research paper. Class meetings will be held Monday through Thursday from 10am-12pm. <i>June 29: GeoDesign in Los Angeles</i> <i>June 30: GeoDesign Under Uncertainty</i> <i>July 1: Final Presentations</i> <i>July 2: Final Presentations</i>		Week 5 Social media interactions completed by 7/2/15 GeoDesign Proposal/Final Presentation 7/1/15-7/2/15
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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://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/departments/departments-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.