SSCI 350: International GeoDesign

Units: 4

Term — Day — Time: Summer 2020; May 26 – June 26, 2020

Location: USC (AHF 145D) and the Netherlands

Instructor: Laura C Loyola, Ph.D.
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Office: VKC B36B
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Course Scope and Purpose

The goal of 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. Additionally, this course will enable students to apply these skills 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 combines planning, design, and environmental systems management 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 University of Southern California (USC) campus, the use of Geodesign principles is becoming 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 a 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 maximize 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 and it's surrounding neighborhoods (Amsterdam-Noord and Amsterdam-Zuidoost), 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 think about how these strategies may be applied in Los Angeles.

Learning Objectives
On completion of this course, students should be able to:
- Explain 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 the ways in which these challenges have been addressed in exemplar Dutch settings;
- Identify and compare successes and challenges in addressing these issues across the Netherlands and Los Angeles, CA;

- Investigate the relationship between human and natural systems in theoretical and practical terms, and categorize how and why people transform natural environments into residential, commercial, and/or industrial uses, including the impacts these decisions have on environmental vitality, economic sustainability, and human health and well-being.
- Produce a specific geodesign plan for Los Angeles County, based on research and geodesign principles.

Students may vary in their competency levels on these abilities. You can expect to acquire these abilities only if you honor all course policies, attend classes regularly, complete all assigned work in good faith and on time, and meet all other course expectations of you as a student,

Prerequisite(s): None
Co-Requisite (s): None
Concurrent Enrollment: None
Recommended Preparation: None

Course Organization

This course is a five-week intensive living and learning experience comprised of lecture sessions on the USC campus paired with an experiential learning component 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, and 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 and completed with colleagues from the Geodesign Lab at Vrije University Amsterdam and the City of Amsterdam Municipality. The focus of these efforts will be to develop stakeholder workshops that lead to a sustainable revitalization plan for the commercial and residential neighborhoods in the borough of Amsterdam-Zuidoost (Amsterdam Southeast).

Technological Proficiency and Hardware/Software Required

Students do not need to have prior experience with GIS software. The modeling software and geospatial data required for course assignments will be accessed using computing resources provided by the Spatial Sciences Institute and Vrije University.

SSI Server and Tech Support – This course utilizes the SSI Server which is a virtual desktop giving access to many different professional software. If you are unable to connect to the server or experience any type of technical issues, send an email using your USC account to Tech Support at spatial_support@usc.edu, making sure to copy (cc) your instructor on the email.

Every student must have the following technology requirements:

- A computer with a fast Internet connection.
- An up-to-date web browser to access the GIST Server

If you have difficulty meeting either of these requirements, please speak with the instructor at the start of the course.

Required Readings and Supplementary Materials

- Lee, Danbi, Eduardo Dias, and Henk J. Scholten 2014. *Geodesign by Integrating Design and Geospatial Sciences.* Switzerland, Springer. (selected chapters)
- Miller W. 2012. *Introducing GeoDesign: The Concept.* Redlands, CA, Esri Press.*
- Ruddell, D. and K. Foster. 2018. *GIS&T and Geodesign.* The Geographic Information Science & Technology Body of Knowledge (3rd Quarter 2018 Edition), J.P. Wilson (ed) DOI: 10.22224/gistbok/2018.3.3.
- Shorto R. 2013. *Amsterdam: A History of the World's Most Liberal City.* New York, Vintage Books.
- Additional readings will be posted to Blackboard as needed in preparation for the Amsterdam case study.

*Denotes text will be posted on Blackboard

Description and Assessment of Assignments

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

Oral Presentation – topic proposal (10 points): You will prepare and deliver a 10-15 minute oral presentation accompanied by PowerPoint slides proposing a topic of interest to investigate for your capstone geodesign project.

Reading Assignments (16 points): You will complete four assignments on readings that inform Geodesign by providing 1-2 page reflections on the concepts, principles, and/or case studies covered in the readings.

Field Activities (15 points): You will be required to participate in all activities for the course, each weekday (Mon – Fri) of the field experience.

Field Geodesign Case Study (15 points): You will complete a case study that will incorporate the field activities and analysis. The case study will culminate in a short presentation.

Field Experience Story Map (14 points): You will create and present an online Story Map that illustrates activities, observations, reflections, and key locations of the field experience.

Capstone Geodesign Project (30 points): You will produce a research paper (3,000 – 4,000 words) and final oral presentation on the research that integrates course concepts and case studies on Geodesign, while proposing a specific Geodesign strategy in Los Angeles County.

Grading Breakdown

Assignment	# of Assignments	Total Points
Oral presentation – topic proposal	1	10
Reading Assignments	4	16
Field Activities	10	15
Field Geodesign Case Study	1	15
Field Experience Story Map	1	14
Capstone Geodesign Project	1	30
TOTAL	**18**	**100**

Assignment Submission Policy

Assignments will be submitted for grading via Blackboard using the due dates specified in the Course Schedule below. 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. No work will be accepted for grading after 5 pm PT on the last day of the PWP session.

Additional Policies

Students are expected to attend and participate in a mandatory orientation session, every class session, and to complete and upload all assignments before the deadlines detailed in the Course Schedule.

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 counts for 52 hours (i.e., 13 days with an approximate average of four hours per day).

Schedule

	Topic	Readings and Assignments	Deliverables/Due Dates
Week 1 5/26* Monday is a university holiday	**Module 1: Core Concepts of Geodesign:** The first week of the course will be held on the USC campus in the Allan Hancock Foundation (AHF), room 145D Tues – Fri, 10am-12pm. Students will be introduced to core concepts of geodesign through a combination of lectures, readings, discussions, and hands-on activities.	Miller (2012); Ruddell and Foster (2012); Lee, Dias, and Scholten (2014)	Complete by Friday 5/29: Reading Assignment 1; Reading Assignment 2; Oral Presentation
Week 2 6/1	**Module 2: Self-directed Research** The second week of class 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 component of the course. Work tasks for Module 2 will be completed independently and can be accomplished from home or while traveling abroad.	Shorto (2013)	Complete by Friday 6/5: Reading Assignment 3; Reading Assignment 4
Weeks 3 & 4 6/6 – 6/20	**Module 3: Field Experience – The Netherlands** 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 with the Vrije Univeristy Geodesign Lab. The case study will focus on sustainable revitalization for the residential and commercial sectors in the borough of Amsterdam-Zuidoost.	Time spent during the field experience will involve: 1) Lectures, field trips, and field work; 2) Independent study time (est. 2 hrs/day); and 3) Personal/ recreation time.	
	The following represents the tentative schedule of the field experience: *June 6*: Arrive in Amsterdam, NL – check-in to The Student Hotel *June 7*: Tour of Amsterdam – guided bicycle/walking tour; historical and cultural appreciation (11am – 3pm)		

	Topic	Readings and Assignments	Deliverables/Due Dates
	June 8: Visit to Vrije University (VU) – meet with Profs. Niels van Manen and Ron Janssen, introductions, tour of Geodesign Lab, and context building (9:30am – 4:00pm) *June 9*: Excursion to Amsterdam-Zuidoost – bike tour and examination of geodesign case study site; lunch followed by stakeholder meetings (9:30am – 4:00pm) *June 10*: Field trip to Utretch University and housing developments *June 11*: VU - presentations by geodesign experts from UNIGIS and independent work (9:30am – 4:00pm) *June 12*: Geodesign Hub Workshop (10:00am – 5:00pm) *June 13*: Field trip to Amsterdam Noord: tour of de Ceuvel (11:00am – 3:00pm) *June 14*: Free day *June 15*: Field trip to Rotterdam – walking tour of Markthal and port tour (10:00am – 3:0pm) *June 16*: Geodesign case study – Designing a participatory workshop/data collection (9:00am – 3:00pm) *June 17*: Geodesign case study – running participatory workshops at the VU (10:00am – 4:00pm) *June 18*: Sustainable economic development and revitalization (festival) at Johan Crujiff Arena (9:00am – 5:00pm) *June 19*: Geodesign case study –presentations and course reflection at the VU Geodesign Lab (11am – 5pm); closing dinner (6pm – 8pm) *June 20*: Check out of The Student Hotel		
Week 5 6/22	**Module 4: Capstone Project and Reflections on Geodesign** The course resumes on the USC campus (AHF 145D) to provide critical reflections on course concepts, the field experience, and the final presentations for the course capstone research project. Class meetings will be held Mon – Fri, 10am-12pm.		Complete by Friday 6/26: Field Experience Story Map; Geodesign capstone project

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

National Suicide Prevention Lifeline – 1 (800) 273-8255 – 24/7 on call
 www.suicidepreventionlifeline.org
Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call
engemannshc.usc.edu/rsvp
Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086
equity.usc.edu, titleix.usc.edu
Information about how to get help or help a survivor of harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following protected characteristics: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations.

Bias Assessment Response and Support – (213) 740-2421
 https://titleix.usc.edu/reporting-options/
Avenue to report incidents of bias, hate crimes, and microaggressions for appropriate investigation and response.

The Office of Disability Services and Programs – (213) 740-0776
dsp.usc.edu
Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

Student Support and Advocacy – (213) 821-4710
studentaffairs.usc.edu/ssa

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC – (213) 740-2101
diversity.usc.edu
Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call
dps.usc.edu, emergency.usc.edu
Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety – - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call
dps.usc.edu
Non-emergency assistance or information.