

SSCI 499: GEODESIGN PRACTICE: THE EUROPEAN EXPERIENCE

Course: SSCI 499: GeoDesign Practice: The European Experience

Offered: Summer, 2014

Location: The Netherlands

Dates: June 2 – July 3, 2014

Grade: Letter

Units: 4

Instructor: Dr. Darren Ruddell

Office: AHF Building B57F

Email: druddell@usc.edu

Website: <http://spatial.usc.edu>

Skype: darren.ruddell

Twitter: @SSI_Prof

Office Hours: Tuesday and Thursday 11:30am-12:30pm and by appointment. I am happy to meet in person or asynchronously via email. I am also available via Skype or Adobe Connect most days provided we schedule the meeting in advance. Please take advantage of office hours – it is a great resource.

1. Course Description

This course will 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 paper 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. 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 aim of this course is to facilitate student-centered learning on GeoDesign. Although the 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, are inherently variable and global, the nature of this exercise will be investigated across a variety of urban settings throughout the Netherlands. The field component of this course will provide students with vital insight into local human and environmental challenges, the ways in which these challenges have been addressed, and the opportunity for students to compare successes and challenges across Los Angeles, CA and the Netherlands.

Taken as a whole, this course provides a broad understanding (theoretical and practical) of the relationship between human and natural systems, investigates 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.

2. Course Organization

This course is a five-week intensive 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 theory of GeoDesign through guest lectures, field excursions, exploratory analysis, and an applied case study in GeoDesign.

3. Field Experience: The Netherlands

The field experience will examine applications of GeoDesign 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 Rotterdam, home to Europe's largest port; a city with vibrant culture and cutting-edge architecture. Students will utilize these experiences to interrogate applications of GeoDesign, and how these strategies may be applied in Los Angeles.

Students will engage in a GeoDesign case study with colleagues from Vrije University. The case study will be to develop a green zone in the Amstelland region which seeks to provide a leisure landscape for residents while simultaneously preserving the ecological vitality of the area.

4. Tentative Schedule

This course will be organized around the following four modules.

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.

June 2: Introduction to Course
 June 3: GeoDesign: motivation and applications; framework and assessment models
 June 4: People and Place
 June 5: Urban Planning and Policy
 June 6: Geospatial Technologies

Read McHarg "Design with Nature"; Steinitz "A Framework for GeoDesign"

Module 2: Self-directed Research

The second week of class (June 9-13) is for you to reflect upon course readings, and outline a societal challenge in the Los Angeles area that you are interested in investigating for the capstone research component of this course. Work tasks for Module 2 will be completed independently. You can use this week to travel in the Netherlands/Europe or complete assignments from home.

Read Miller "Introducing GeoDesign: The Concept"; Dangermond "GIS: Designing Our Future"

Module 3: Field Experience

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:

June 14: Arrive to Amsterdam, Netherlands – check in to The Student Hotel
 June 15: Tour of Amsterdam – guided bicycle tour; historical and cultural appreciation
 June 16: URD Conference – presentations on GeoDesign
 June 17: Field trip to Waterland – bicycle tour and examination of Dutch land reclamation efforts
 June 18: Field trip to Almere and Utrecht – consult with New towns
 June 19: Visit to Geodan and Vrije University – presentations by Henk Scholten, Distinguished Professor, Vrije University and CEO of Geodan, Europe's largest geospatial consulting group; Eduardo Dias – spatial questionnaire; Niels van Manen, Lecturer, Spatial Economics and Geosciences at Vrije University
 June 20: UNIGIS Meeting
 June 21: Field trip to Van Gogh Museum and Holland Festival
 June 22: Free day
 June 23: Visit Prof. Eric Koomen's AUC class – lecture on UHI; Workshop in geospatial technologies
 June 24: Field trip to Rotterdam: tour of Esri, Port, and urban architecture
 June 25: GeoDesign Case Study – field work in Amstelland
 June 26: GeoDesign Case Study – design proposals
 June 27: GeoDesign Case Study – presentations; evening banquet
 June 28: Check out of The Student Hotel

Read Crain "Theories of Development"; Neutra "Survival Through Design"

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.

June 30: GeoDesign in Los Angeles

July 1: GeoDesign Under Uncertainty

July 2: Final Presentations

July 3: Final Presentations

5. Course Assessment

Social Media Interactions 10%

Students are required to chronicle field research and course activities via the social media outlet Twitter.

Reading Assignments 10%

Students will reflect on four reading assignments informing GeoDesign.

Participation in Field Activities 20%

Participation is required for all activities of the field experience.

Written Field Journal 20%

Students will maintain a field journal of experiences and reflections for the field experience. The field journal can be completed in analogue form or as a public blog.

Oral Presentation 10%

Students will deliver an oral presentation of their capstone research paper.

Research Paper 30%

Students 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.

6. Social Media – Twitter

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. Beyond its relevance to the coursework, though, you are encouraged to explore the site as to its possibilities for professional networking for yourselves. Make sure to follow me (@SSI_Prof), other members of the class, in addition to following leaders in your field.

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 (at least five tweets each week for weeks 1-5 of this course). 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. In addition to reading your tweets on a regular basis, I will be using an online archiving tool to keep track of Twitter activity.

We will use hashtags #SSCI499 and #USCGeoDesign to ensure that tweets are incorporated into the class discussion. Any tweets that do not contain these hashtags will not be counted because the website will not record their activity.

Twitter activity for the course will be graded on a pass/fail basis. If you tweet the requisite number of times (a minimum of five tweets per week – or $5 \times 5 = 25$ total tweets), you will receive an A for this assignment. If not, then you will receive an F.

7. Required Reading

- 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.

8. Academic Accommodations

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP and it should be delivered to me early in the semester. DSP is located in STU 301 and is open from 8:30am to 5:00pm, Monday through Friday (213-740-0776; study@usc.edu).

9. Academic Integrity

Academic integrity is a foundational principle of our community and ensuring the highest standards of academic integrity is the collective responsibility of faculty, students, and administrators. There is a process in place to deal with such incidents as cheating, unauthorized collaboration and plagiarism. The Trojan Integrity Guide can be found at <http://www.usc.edu/student-affairs/SJACS/forms/tio.pdf> and the Undergraduate Guide for Avoiding Plagiarism can be found at <http://www.usc.edu/student-affairs/SJACS/forms/tig.pdf>.

10. Important Dates

- 6/2: Class begins
- 6/14: Check in to The Student Hotel in Amsterdam, Netherlands
- 6/28: Check out of The Student Hotel in Amsterdam, Netherlands
- 6/30: Class resumes at USC campus
- 7/3: Final examination (10am-12pm)

11. Contact Hours

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 four-hour days).

12. Faculty Bio

Darren Ruddell is Assistant Professor and Director of Undergraduate Studies for the Spatial Sciences Institute at the University of Southern California. Dr. Ruddell teaches Geographic Information Science (GIS) courses in the GeoDesign major as well as the online GIST graduate programs. Ruddell earned his Ph.D. in 2009 from the School of Geographical Sciences and Urban Planning at Arizona State University, served as Affiliated Faculty in the School of Sustainability at Arizona State University, and his research efforts utilize geospatial technologies to investigate issues of climate change and urban sustainability.