

CMP4960/6960 – Green Infrastructure

Instructor: Dr. Sarah Hinnners sarah.hinnners@utah.edu

Class meets: Fridays 11:50-2:50 in LNCO 2850 or at various field locations (TBA)

Office hours: after class or by appointment

COURSE DESCRIPTION

Green Infrastructure (aka blue-green infrastructure) uses natural systems and processes to provide multiple essential services and benefits to communities. More than a technology, green infrastructure is an *approach*, a way of thinking about planning, design, engineering and construction of human habitats. The logic of this approach is that human settlements are an inherent product of, and a part of, natural systems. Our settlements will function more efficiently for less cost, and be more resilient, healthy, prosperous and fulfilling if we turn to nature first in thinking about infrastructure. The approach of green infrastructure is unified by the following basic principles: 1) natural systems are integral to urban ecosystems; 2) green infrastructure should serve multiple purposes; 3) GI is the product of interdisciplinary collaboration; 4) GI generates unique outcomes adapted to place.

Green Infrastructure crosses traditional disciplinary boundaries and a wide range of spatial scales. It has strong bases in ecology, engineering, landscape architecture, and urban planning and design. The approach applies from a site to regional scales. Examples of green infrastructure include the suite of stormwater management practices often referred to as Low-Impact Development (LID), urban forests, stream and habitat preservation and restoration, urban greenways, urban agriculture, green streets, and watershed protection.

In this course, we will explore green infrastructure from the perspectives of research, design and implementation through a combination of in-class lecture, interaction with guest lecturers and professionals, discussion and activities, field trips, case studies, and semester projects. The depth to which we explore each perspective will be driven by the interests and expertise of the students in the class.

LEARNING OBJECTIVES

This course has dual objectives:

First, all students successfully completing the course should come away with a clear, broad picture of the concept of green infrastructure and the many ways and situations in which it may be applied. Second, depending on his or her field or area of interest, each student will come away with a set of skills and knowledge that will allow him or her to apply these concepts to specific situations, whether in planning, policy, engineering, design, etc.

As a bonus objective, because of the interdisciplinary structure of the class, students will also gain competence in working with individuals from different fields, and will understand how each field contributes to and utilizes green infrastructure thinking and practice.

TEXTBOOKS

Green Infrastructure: A Landscape Approach by David Rouse and Ignacio Bunster-Ossa

Sustainable Infrastructure: The guide to green engineering and design by S. Bry Sarte

Both are available at the campus bookstore.

Additional readings will be posted on Canvas. The reading should be done before class.

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ASSESSMENT

Participation: 15%

Assignments: 20%

Project proposal: 25%

Final project: 40%

CANVAS

All course materials, including the most updated version of the calendar, assignments, lecture slides, and readings will be made available on Canvas and updated frequently.

NOTES AND POLICIES

The classroom setting is meant to be interactive and inclusionary; participation and discussion are very important. Expectations for classroom behavior are based upon mutual respect. These expectations include: arriving on time, being prepared, paying attention when others are speaking, maintaining civil discourse and respecting different points of view. We will use Canvas and email as the primary modes of communication outside of class, so you are expected to check your campus email on a regular basis.

Assignments are expected to be handed in on time. Late assignments will lose 10% of their total value for every day they are late, starting at 12:00am.

Lecture Schedule

CLASS DATES red=UofU only blue=USU only green=field trip

Aug 25 - Introduction to GI concepts – [Hinners], tour of campus GI - [Mike Brehm, UofU EHS]

Sept 1 – Engineering perspective – [Dupont]

Sept 8 – Landscape Architecture perspective – [Mark Morris, VODA Planning & Design]

Sept 15 – Field trip to Terakee Farm proposed subdivision – [Brad Blanch, developer/landowner]

Sept 22 - Open space planning – [Sumner Swaner]

Sep 29 – Field trip to Ogden River restoration – [Justin Anderson, Ogden city engineer]

Oct 6 – Real world stormwater GI implementation in UT – [Chris Thompson, Spanish Fork City Eng]

Oct 13 - FALL BREAK UofU

Oct 20 - FALL BREAK USU

Oct 27 – GI and Homelessness – [Jeff Rose, PRT] Student field trip debriefings, **Project proposal due**

Nov 3 – GI and Wellbeing; Implementation & Valuation, Design and Performance Assessment [Dupont]

Nov 10 – Field trip to Powder Mountain

Nov 17 – Powder Mountain review/ GI design for drier environments/ planning, design, ecology of GI

Nov 24 - THANKSGIVING BREAK

Dec 1 – Project presentations, UofU

Dec 8 – **Final project due UofU**

Americans with Disabilities Act: The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class,

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reasonable prior notice needs to be given to the instructor and the Center for Disability Services, 162 Union Building, (801)581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

Addressing Sexual Misconduct: Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted on the basis of your sex, including sexual orientation or gender identity/expression, you are encouraged to report it to the University's Title IX Coordinator; Director, Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or to the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to police, contact the Department of Public Safety, 801-585-2677(COPS). Additional information regarding reporting and victim supportive resources are available at the offices listed above.

Academic Misconduct: Academic misconduct includes cheating, plagiarizing, research misconduct, misrepresenting one's work, and inappropriately collaborating. Definitions of these and other terms can be found in the Student Code at <http://www.regulations.utah.edu/academics/6-400.html>. The Student Code (at section 6-400(V)) also specifies the required procedures that must be followed when disciplinary actions are taken in response to instances of academic misconduct. For students enrolled in degree programs in the College of Architecture + Planning, a second occurrence of academic misconduct will result in the student's dismissal from their academic program.