

LDA/GEO 215: ECOLOGIES OF INFRASTRUCTURE
FQ 2018



Concrete levee barrier, Franks Tract, 2018

INSTRUCTOR: Brett Milligan

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SCHEDULE: Fridays, 12:30am - 4:30pm, 166 Hunt Hall

COURSE DESCRIPTION

Both ecology and infrastructure have assumed expanded importance across a range of contemporary concerns. Formerly confined to biological and environmental sciences, ecological thinking now permeates many disciplines as a relational method to investigate social, material, economic, and political dimensions of spatial practices. Similarly, conceptions of what infrastructures are, and what they may become are expanding in response to widespread environmental degradation and social inequalities caused by design frameworks from the past century. To overcome these shortcomings, new forms of infrastructure that align landscape and engineered processes have emerged. These fall under many names, including sustainable, green, and regenerative infrastructure, as well as ecological engineering, industrial ecology, and landscape as infrastructure/infrastructure as landscape.

Applying scholarship from infrastructural studies, landscape theory, ecology and contemporary design research, this course will provide a theoretical foundation for interpreting and critically engaging in infrastructure's redefinition. Through readings, discussion sessions, presentations, guest lectures and field trips, participants in the course will have the opportunity to test and apply these concepts on specific landscapes of their own choosing. Students from a variety of disciplines are encouraged to participate, as the course is structured to allow students to customize their research focus and methods of geographic analysis, while being exposed to methodologies and approaches of other disciplines. Subthemes covered in the course will include landscape resiliency; novel ecosystems and designed ecologies; emergence and accelerated landscape change, complexity, transdisciplinary practices, and scenario planning.

STUDENT LEARNING OBJECTIVES

- Through selected readings and in-class discussion sessions, participants will have the opportunity to assess and debate concepts and theories culled from contemporary infrastructural studies. This objective will be evaluated through in-class participation.
- Through a course field trip, participants will acquire direct experience with built works of infrastructure.
- Students will synthesize learning activities performed in the course (such as reading, lectures, discussions, and field trips) through an applied case study of their own choosing.

MATERIALS

No special requirements. Students will need to have access to a computer and software through which to perform activities such as word processing, digital storage, manipulation of photographic imagery, mapping (such as Google Earth and GIS), etc. Digital cameras and/or video recorders are recommended for field trips, and for use in the case study project.

FORMAT

This course meets once a week for a total of four hours. In-class time will primarily consist of discussion sessions, presentations and guest lectures. If there is a scheduling conflict for particular sessions, they may be scheduled at other times. Field trip(s) may be scheduled during class sessions or on weekends. Time outside of class will be spent reading selected literature, preparing for discussion sessions and completing case study assignments.

SCHEDULE

Please see the separate schedule document, which lists weekly topics, required readings, and due dates. The schedule is a living document and subject to adaptation and change as the course progresses.

ASSIGNMENTS

Leading of Discussion Sessions

Students will be asked to co-lead in-class discussion sessions. These sessions will be based on a set of thematic readings. For this task, discussion leaders should not summarize the readings. Rather, leaders will be expected to create a list of critical questions and responses to foster group discussion.

Specifically, session leaders are expected to:

- Articulate the thesis/main points of each reading
- Offer critical responses and questions to these perspectives/theses
- Make connections and comparisons amongst the week's set of readings, as well as to previous course readings and discussion sessions

Students are asked to meet with the instructor during office hours or by appointment prior to leading their discussion sessions, or communicate with the instructor via email to review and discuss their planned approach to discussing the material. If you have ideas for alternative formats for these learning sessions, you are welcome to talk with the instructor about them prior to the session.

Case Study Projects

As the primary assignment for the course, students will select a particular landscape or set of landscapes through which to construct an infrastructural case study. Students may choose from either the main case study that will be explored in a field trip and class sessions (this year's case study will be on Franks Tract in the California Delta) or a project that relates to students' particular research emphasis. The advantage to

choosing the course case study is that much of the material and guest presentations will be provided to you.

These case studies will investigate the existing infrastructure (how it works, how it is physically and socially assembled, etc.) by applying selected course readings to the example. In terms of emphasis, students have the choice of picking one of two options for the case study:

- A. A critical assessment of how selected course literature (and related readings) apply to and inform the case study and vice versa; meaning what the specifics of the case study might reveal in terms of limits or challenges in the generalizations of the literature. This option is more focused on critical geographic description; teasing out how close inspection of the unique case study might challenge the findings or ontologies of the literature used to encounter it.
- B. Perform a critical assessment of what the infrastructure of the case study currently is as a basis for speculating on how it could be modified to better perform across social, ecological and political parameters. This option still requires that course readings be applied to the case study to situate and encounter it, but places more emphasis on speculating on the potential future of the infrastructure in terms of design, engineering, socio-ecological equity, etc.

This choice in emphasis is offered to allow for flexibility in student interests and backgrounds. Option A will entail more critical scholarship and engagement with texts. Option B will require more applied design research. Either emphasis for the case study will require that the author take a stance and attempt to contribute new and original insights.

The case study will be evaluated through both a mid-term and final submission (see evaluation). For the midterm will require an outline of your approach and concepts and how you are applying select readings to the project is required, which will be reviewed by one of your peers. The final will require a refined outline and a combined visual/spoken in-class presentation. A variety of modes of research and delivery are possible if discussed with and approved by the instructor beforehand. For more details on the case study (research requirements, due dates, etc.), please see the separate case study assignment document.

POLICIES

Attendance + Participation

Students are expected to arrive on time to each scheduled session and be prepared for scheduled class activities. Participation in field trips, discussion sessions and reviews are essential and required rather than optional. As we will be meeting once a week in one condensed session, missing one session is equivalent to missing two classes. Missing class sessions will result in lost credit for class participation (see evaluation).

Readings + Discussion Sessions

Required readings are listed on the course schedule for the day they will be discussed in class discussion sessions. Assigned readings will vary in format (academic articles, technical reports, popular media, websites, other) will be a regular component of the course as preparation for focused group discussions. Readings may also serve as introductory materials for guest speakers and field trips. Weekly readings will be available for download from Canvas or via a web link supplied on the course schedule (note: not all readings will always be on Canvas, so it is important to check the schedule for all required readings).

As a four credit graduate course, it is expected that students will have closely read the assigned readings prior to scheduled discussion sessions and be prepared to discuss the material critically, meaning reading of the texts should include the generation of critical responses and questions to the material, identification of strengths, potential weaknesses and applications of concepts, and forging connections amongst the readings (both for that session and previous discussion sessions).

Course Fees

This course requires course fees, which are used for course materials and field trips.

Due Dates and Submissions

All assignments must be submitted by the specified due date listed on the course schedule (separate document). Late projects will not be accepted except for significant and legitimate reasons. Students will be required to submit their work both digitally (uploaded to Canvas) and in hard copy.

Collaboration

Students are highly encouraged to consult and share with other students throughout the quarter. Generally, the more that is shared the more we all will learn and the more productive the course will be.

Diversity, Accessibility and Inclusion In The Classroom

Students with all types of learning styles and needs are welcome in this course. If you have a consideration that might require accommodation, please do not hesitate to approach me or to consult with the Student Disability Center [<http://sdc.ucdavis.edu/>].

If you find yourself in need of physical or mental health accommodation please consult with Student Health and Counseling Services [<https://shcs.ucdavis.edu/>].

Plagiarism and Compliance with UC Davis Code of Academic Conduct

While students are encouraged to learn from case studies and design precedents, all work must be original or properly cited. Graphic or narrative plagiarism will not be tolerated. All data and unoriginal material should be properly sourced. If suspected, plagiarism will be reported to Student Judicial Affairs. As with all UCD courses, this course is subject to, and will uphold the Code of Academic conduct (full description and expectations available here: <http://sja.ucdavis.edu/files/cac.pdf>).

EVALUATION

- 30% Class Participation + Attendance
- 20% Leading of discussion sessions
- 20% Mid-term case study submission and peer review
- 30% Final case study submission (includes outline and class presentation)

GRADING

In addition to the specific criteria listed for each assignment or learning activity, evaluation will be based on intellectual creativity, depth of investigation and conceptual integrity.

Description of Letter Grades:

- A: Excellence in every way, with a high level of competence demonstrated in the work. Superior presentation skills. Active participation in all course activities. All work submitted on time.
- B: Good quality work touched by some deficiencies, or limited understanding of course principles; inadequate depth or inconsistent performance in course work.

- C: Satisfactory work of average quality. Lack of development or engagement with course objectives. Work completed without thought or attention to detail.
- D: Unsatisfactory work with obvious shortcomings, incomplete in quality. Poor or non-participation in class.
- F: Failing work, complete lack of understanding and/or application of skills. Non-attendance, missed work, missed deadlines.

GENERAL REFERENCE MATERIALS

(see course schedule, which lists both required readings and additional/suggested readings)