

USC

School of Architecture

University of Southern California School of Architecture
Master of Landscape Architecture Core Curriculum
Arch 542a, Second Year Landscape Architecture Studio

Studio Topic: Coastal California: Designing for Sea Level Rise and Climate Change

Fall 2018 Semester, 6 units

Time: MWF 2-6 pm

Location: 3rd floor of Watt Hall (in Landscape Corner)

Instructor: Tracee Johnson

Contact Info: traceej1@gmail.com, 315. 247.1233

Office Hours Meeting Location: studio

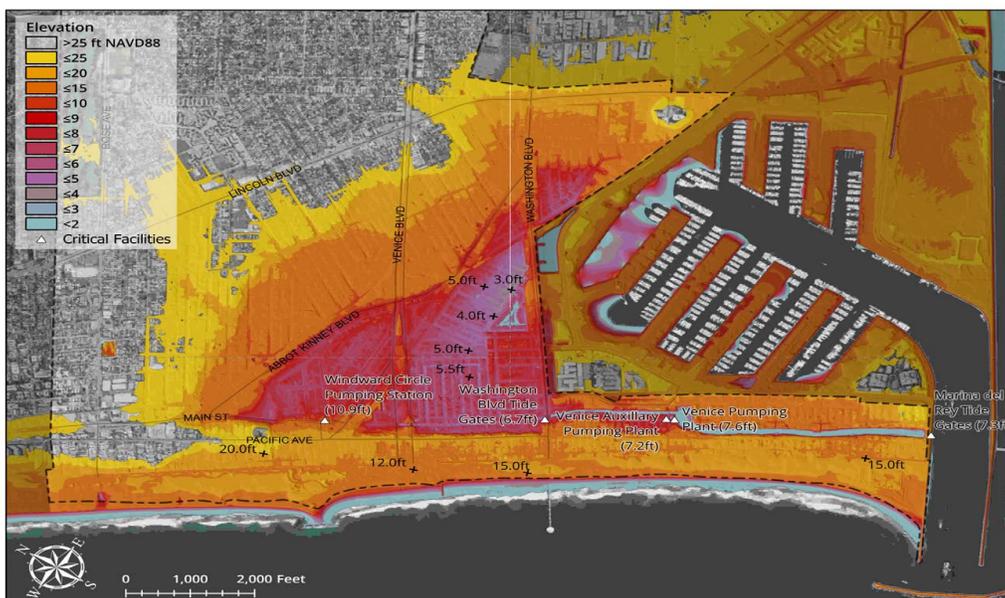
Office Hours: Monday 12-2 pm by appointment

Course Description

This advanced level studio will work collaboratively with architecture studio 402a to develop urban interventions and designs that respond to the long-term effects of sea-level rise in the Venice Coastal Region. Coursework includes advanced design research, urban analysis, landscape systems understandings and study of the social, cultural and physical attributes of public space. Clear communication through drawing, writing, and speaking are practiced through public presentations and workshops. This course will meet for twelve hours of studio per week. Students are also expected to work on their projects for a minimum of 24 hours outside of class time.

Learning Objectives:

- Work collaboratively to develop comprehensive and integrative landscape and architectural design strategies at multiple scales
- Utilize research as a tool to develop specific site and environmental strategies.
- Incorporate site characteristics, programmatic needs and relevant codes and laws into feasible design proposals. Students must synthesize a multitude of complex and often technical information.
- Employ an overarching frame of sustainability, seeking proposals that support ecology, economy, and equity at all levels—from the broad and conceptual approaches to the technical details.
- Provide meaningful and useful design input for real issues and projects occurring within the Venice Coastal community.



Venice Elevation Map (Source: Venice Local Coastal Program)

Introduction:

Coastal California is already experiencing the early impacts of a rising sea level, including more extensive coastal flooding during storms, periodic tidal flooding, and increased coastal erosion. Projections of future sea-level rise have increased substantially over the last few years. After 2050, sea-level rise projections increasingly depend on the trajectory of greenhouse gas emissions. Under the extreme H++ scenario, rapid ice sheet loss could drive rates of sea-level rise in California above 50 mm/year (2 inches/year) by the end of the century, leading to potential sea-level rise exceeding 10 feet. These sea-level rise projections will continue to change as scientific understanding increases and as the impacts of local, state, national and global policy choices manifest. By 2060, it is expected that sea levels in California will rise by 2-4 feet. Consideration of high and even extreme sea levels in decisions with implications past 2050 is needed to safeguard the people and resources of coastal California.

How must landscape architects, architects and city planner's design for this sea level shift? How can landscape design and sustainable practices be used to mitigate the effects of climate change? And how can designers implement solutions that reflect the demands of city policy and the needs of the local community? Urban landscape design and planning in the public realm will focus on community engagement issues including: environmental and social justice, open space resources, multi-modal transit ways, public health, recreation opportunities, waterways and food & water security.

This studio design course focuses on intervention theory and long-term design strategies for the coastal areas surrounding Venice Beach, California. Students will engage with local regulatory programs, planning departments and community members to research and implement long-term design strategies based on the ongoing research, projections and protection of the coastal communities. This is a collaborative studio and students will be expected to work closely with local partners and experts, including but not limited to, the following:

The Venice Local Coastal Program (LCP) is a policy and regulatory document required by the California Coastal Act that establishes land use, development, natural resource protection, coastal access, and public recreation policies for the Venice Coastal Zone. The content for the LCP plans is derived from community input, current land use and zoning, and policy guidance from the Coastal Commission related to the Coastal Act. Special emphasis will be placed on planning for sea level rise and climate change.

Los Angeles Department of City Planning is undergoing a multi-year effort to prepare, adopt, and certify the Venice LCP as the coastal planning tool for the area with public input. At present, the City of Los Angeles has a certified Land Use Plan for the Venice coastal segment, however the Implementation Plan was not certified. Once approved and certified by the California Coastal Commission, the LCP will be implemented by the Department of City Planning.

Moffat & Nichol / Dudek engineers have been working with the Venice LCP on development plans for several years. Their group of environmental planners, engineers and scientist are a wealth of information on the specifics of sea level change in the Venice Coastal Zone.

Studio Outline:

Weeks 1-3: Site Research and Diagramming

Design inquiry begins from understanding the structure of neighborhoods and ecological patterns, building regulatory framework, and their role in shaping the built environment. The studio will organize into groups, each group will be responsible for research, however every student will produce an analytical drawings at multiple scales based on the following topics:

1. Zoning / Building Typologies

Neighborhood Scale: Zoning boundaries, Maximum Build-out Scenarios, Historic Resources, Comparative Floor Plate

Block Scale: Major Setbacks and Stepbacks, Massing as Result of Boundary-derived Form

Lot Scale: Floor to Area Ratio (FAR), Additional Setbacks and Massing, Special Shoreline Criteria

2. *Façade/Streetscape Urban Profiles and Human Interaction*
 Neighborhood Scale: Catalogue and Analysis of Facades for Entire Length of Major Roads
 Block Scale: Superimposed Building Facades for Scale Comparison
 Lot Scale: Urban Canyon Section of Street and Facades for each District
3. *Ecological Landscapes – Natural Systems*
 Neighborhood Scale: Primary Flora, Ecotones and Morphological Attributes, Hydrological / Environmental Factors Affecting Distribution, Habitats
 Block Scale: Community Characteristics and Collective Landscape Patterns
 Lot Scale: Vegetation Form / Canopy Architecture / Spatial Attributes
4. *Circulation (auto; human-powered; water-based)*
 Neighborhood Scale: Networks, Hierarchy, Distribution
 Block Scale: Intersections, Nodes
 Lot Scale: Street Section, Boating, Shipping, Water Depth and Canal Section Criteria
5. *Materiality / Structures (construction types and material distribution)*
 Neighborhood Scale: Quantities, General Patterns of Construction Types
 Block Scale: Distribution of Materials (location)
 Lot Scale: Construction Types in the Districts, Sections of Typical Construction Types
6. *Cultural Identity / History of Place*
 Neighborhood Scale: Historic demographics, policies and cultural fabric
 Block Scale: Nodes and significant patterns/events. Social vulnerability and enviro justice
 Lot Scale: Historic spaces, significant community hubs

Additional research will include:

- Deep research of ongoing development plans, environmental reports, GIS maps and related research documents affecting the site, including site visits and in person meetings with the city planning department, Venice Local Coastal and residents.
- Research innovative and effective technologies and green infrastructure strategies, including, but not limited to, the California Coastal Commission Sea Level Rise Policy and the Sustainable Sites Initiative.
- Expansive site visits and data gathering exercises, including site sketching and studies and hand drawn diagrams which will be used to explore potential long-term impacts of sea-level rise within the Venice Coastal Zone.

Weeks 4-7: Design Development

Students will organize into teams that include a mixture of architecture and landscape students. Each team will focus on a specific district of the Venice Coastal Zone, with an awareness of their bordering zones. Groups will prepare a schematic urban design proposal. Projects should clearly define a *thesis* about the reshaping of the neighborhood through three sequential design process concerns: 1) a project approach vocabulary, 2) methods and materials in shaping a formal solution, and 3) spatial outcomes as they serve social and ecological intentions at both an urban and architectural scale. Required work products include plans, elevations, perspectives, diagrams, sketches and study models as appropriate.

Ideas are tied to scale. Project proposals must operate throughout the district, as well as address a discrete aspect of the proposal. How do we re-conceptualize urban design and redevelopment, and the way we live post six feet of sea level rise? The research and **design inquiry** should be understood as a foundation for the remainder of the semester when students collaborate with one another and faculty to pursue more detailed scenario proposals for presentation to community stakeholders. The goal is to produce a robust thesaurus of design approaches and tools available for further development within the studio.

Students will develop conceptual design proposals, plans and landscape interventions that directly address sea-level rise and the goals of the Venice LCP. Enhancement of place, environment and green infrastructure are to be derived from addressing issues of Sustainable Urbanism which:

- Engage the environmental, economic, legal, and cultural context of the area and its surrounding geophysical environment
- Identify regional and cultural contexts.
- Establish open/green space systems that are useful, connect associated uses, and are visually pleasing and contribute to the identity and interconnectedness of the urban fabric.
- Route multimodal circulation systems including roads, greenways/blueways, parking, and paths in a manner consistent with principles of the Sustainable Site Initiative (SITES) and local development goals.
- Demonstrate an awareness of conventional standards, historic precedents, and current trends in sustainable site and building planning

Weeks 8-16: Design intervention and Phasing

This phase entails refined Design Development of proposals, including preparation of drawings, renderings, and models needed to illustrate and exhibit solutions that comprehensibly communicates design intent as well as result. (Final list of required documents to be announced in class). Studies should demonstrate a depth and conclusiveness far beyond those proposed in the preceding phase. The goal is to secure finalized scenario plans and seek public support for implementing suggested outcomes within scenario plans. Each group/district design interventions and strategies must relate to adjoining district plans. A long-term implementation and phasing plan will be required.

Students will design detailed site design solutions and interventions that fully integrate innovative green infrastructure systems which:

- Responds to the environmental, economic, legal, and cultural context of the site and its surrounding context;
- Develop detailed designs studies associated with these opportunities and impact zones of the Venice Coastal Community.
- Reinforce sustainable infrastructure and strategic actions identified in phase one and two.
- Enhance and reinforce the open/greenway/blueway systems at the detail design scale
- Meet and exceed expectations and standards of the local development infrastructure guidelines and community at large

Project Schedule and Grade Distribution

WEEK	Venice Coastal Zone	GRADE VALUE
1-3	Site Research and Analysis	5%
4-7	Design Development Preliminary conceptual design proposals Finalization of Scenario Plan Proposals at the site scale Midterm Critique	25%
8-16	Design Interventions Shifting Scales – Zooming In Development of site systems and design details in relation to the specific context	
	Completed Work at Final Review	60%
All	Class participation and engagement (Individual)	10%

Detailed Course Calendar *tentative schedule, subject to change

Week/ Date	Monday	Wednesday	Friday
1 Aug 20	Introduction / Syllabus Project 1 Introduction – Group Research & Case Studies	Case Study Research & Crits (LCP Office Hours Thurs. 8.23)	LA County Planning Guest Lecture Case study review
2 Aug 27	Group Research & Crits	Site Visit w/ guest, Site Research Exercises	Crits
3 Sept 3	LABOR DAY - NO CLASS	Guest Lecture – GIS (Architecture in a changing climate lecture – 9.6)	Review of Research Presentations
4 Sept 10	Site Visit with Venice Preservation Department	Crits	Guest Lecture – Moffat & Nicols Engineers
5 Sept 17	Crits	Crits	Crits
6 Sept 24	Guest Lecture – local expert(s)	Crit	Crits
7 Oct 1	Crits	Crits	MIDTERM REVIEWS (Oct 5)
8 Oct 8	Tentative: all program EPA Competition	Tentative: all program EPA Competition	Tentative: all program EPA Competition
9 Oct 15	Site Visits	Crits	Crits
10 Oct 22	Crits	Crits	Guest Lecture
11 OCT 29	Crits	Crits	Crits
12 Nov 5	Crits	Crits	Crits
13 NOV 12	Crits	Mock Final Review	Crits
14 NOV 19	Crits	THANKSGIVING – NO CLASS	THANKSGIVING – NO CLASS
15 NOV 26	Crits	Crits	Last day of Class - Graphics and Presentation help with invited guests
16 DEC 3		FINAL REVIEW (12/05) WEDNESDAY	

USC Critical Dates

Classes Begin	Mon	August 20
Labor Day	Mon	September 3
Thanksgiving Holiday	Wed-Sun	November 21-25
Classes End	Fri	November 30
Study Days	Sat-Tue	December 1-4
Exams	Wed-Wed	December 5-12

Class Methodology

Class is from 2:00 – 5:50 MWF. This is an upper level studio; we expect in-depth, independent research and high quality productions. We expect class time to be used to its fullest in both group and individual activities. Because of the peer learning associated with the studio environment, your attendance and participation is expected during all classes, unless you've notified the instructor in advance. Please let me know if you're sick, out of town, etc.

In Class Pin-Ups The class will predominately consist of group pin-up reviews and desk critiques. You will be expected to pin up all the work due/you want to discuss, each class. You are encouraged to participate in the in-class pin-up reviews. Your in-class participation is reflected in your final grade.

Site Visits There will be several site visits. In general, no transportation will be provided. You will be required to take ride sharing or public transportation. Please bring suitable shoes (covered), water, and materials for recording space; tape measure, notebook, camera.

Final and Mid Reviews Outside reviewers will come to discuss and evaluate your work at mid and final reviews. Presentation orders will be posted. All students must be pinned up 30 minutes prior to the scheduled start time to participate in the review (and not be penalized). The entire class must be present during the course of the review. Do not take your own notes – ask another student to make notes for you. Presentation durations will be specified.

Readings There will be semi-regular readings, which will be assigned as necessary.

Technological Proficiency and Hardware/Software Required

Students will utilize the Adobe Creative Suite (Photoshop, Illustrator, InDesign), MS Word, Excel, hand drawing and ArcGIS software to research and develop planting and urban forestry design concepts. Some physical modeling will be included in planting design exercises.

Materials, Readings and References:

A range of design pens and pencils, 18" wide white trace-papers, a small sketchbook, tape measurer and model material as needed.

Required books:

Orff, Kate and SCAPE. *Toward an Urban Ecology: SCAPE / Landscape Architecture*, New York: The Monacelli Press, 2016.

Englander, John. *Rising Sea Level and the Coming Coastal Crisis*, Trunity (electronic version), 2015. ISBN: 978-1-63097-012-3

Articles, videos and podcasts will be assigned and provided as necessary. A list of highly recommended text and resources is provided on the classes **Google Drive Folder**. This will be a living file; students are responsible for updating, organizing and archiving their work in this file throughout the semester.

Prerequisite(s): Arch 541b or +2 Status

Assignment Submission Policy:

Late work will be reduced by ½ grade per day.

Additional Policies

USC student conduct code and policies can be found: <https://sjacs.usc.edu/students/scampus/>

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://adminopsnet.usc.edu/department/department-public-safety>. 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.