USC School of Architecture

Course Arch 538 Planting Design
Units: 2
Fall 2022 Tuesdays from 1:30 to 3:20 pm Pacific Time
Location : Harris 125 (Verle Annis Gallery)
Office hours or meetings with students: Tuesdays 4 pm or as arranged with the instructor

Instructor: Esther Margulies RLA ASLA
Office: Watt Room 339
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IT Assistance: https://itservices.usc.edu/students/

'… the tension in which nature now exists; its continued disappearance in the wild; its expanded potential in urban and suburban areas. Wild spaces may be shrinking, but nature still exists.

The front lines of the battle for nature are not in the Amazon rain forest or the Alaskan wilderness; the front lines are in our backyards, medians, parking lots, and elementary schools. The ecological warriors of the future won't just be scientists and engineers, but gardeners, horticulturalists, land managers, landscape architects, transportation department staff, elementary school teachers and community association board members. '

Planting in a Post- Wild World by Thomas Rainer and Claudia West

Course Description

This course will provide practical and implementable tools and theory to build methodologies in planting design with a focus on the complex qualities of designed plant communities. Lectures, field trips and assignments will examine and illustrate principles and methods of planting design that address contemporary issues of climate resilience, the role of vegetation in landscape performance, planting as artistic media and composition, cultural expression and meaning, and as a source of food, medicine and other products.

Planting design is the nexus of the arts, science and social aspects of landscape design. It requires multifaceted decisions to assess site, climate, ecological, cultural and program requirements. The development of planting design with appropriate vegetation is a constantly evolving sub discipline in landscape architecture that has evolved based on available technology, resources and climate conditions. Lectures will include readings, case studies and lecture material on a wide range of precedents and designers who have developed practices that integrate planting design with significant intention and purpose.

Students will implement practical tools for developing site analysis and plant selection and design. Field trips and guest lectures will illustrate excellence in the profession of landscape architecture theory and practice via guided visits of completed works in the Los Angeles region.

This is a hands-on class that will require active engagement in every class. If you miss a class you will need to make up any work that is done during the class time. Your classmates have a wide range of experience and knowledge in horticulture, cultural practices and technology. Collaborative work will be required, and each student is expected to do a fair share of each group assignment.

Learning Objectives

- Develop varied approaches to planting design that respond to the range of scales involved in the practice of Landscape Architecture from climate change to client soil texture.
- Using site assessment data and tools develop site analysis documentation specifically for planting design purposes.
- Develop appropriate plant palettes based on site conditions, project program and additional objectives.
- Create planting design and documentation that utilizes vegetation as a medium to create well defined outdoor spaces, provide quantifiable landscape performance benefits and social/cultural value.
- Develop preliminary skills in CAD and Land fx software to document planting plans and schedules

Prerequisite(s): Arch 537 or Permission of the Instructor

Preliminary list of Classes and Topics

August 23 Introduction – Course Goals and Objectives

This class will provide a brief overview of the issues for discussion in this course. Students are encouraged to contribute to the discussion. What questions are important in the field of landscape architecture and planting design?

Discussion:

What do students want to investigate in this class? What topics are of interest or require further study? How can they be integrated into the framework of the syllabus?

In Class Work :

Assignment 1: In teams of 2 students : Select a successful landscape space on the USC UPC campus that is well defined by vegetation. Visit the space and develop an experiential analysis of how the vegetation on this site creates a memorable experience. Each team will select a different space.

Assignment 1 Experience of Garden/Vegetation in Landscape Spaces

Due August 30 th Pin up in Class

For your selected site/space develop the following documentation:

1. Plan view diagram documenting the existing vegetation including a roughly accurate layout of the planting, identify all species and provide measured dimensions of the space. Measurements may be determined using field measuring, from scaled drawings or using other digital measuring methods.
2. Character sketches – Create 2 hand drawn pencil sketch perspectives that capture the quality of the space. You may draw over a photograph. Watercolor painting, pastels, colored pencil or markers may be used to add color. 1 sketch by each student.
3. Verbal description of the space – describe the qualities of the vegetation in this space including composition, scale, microclimate, value of the vegetation and how it engages your senses. Would you consider this space climate ready? Does the vegetation in this space have performance or cultural value?

August 30 Formal Spatial Traditions of Planting Design – Europe, Asia and the Middle East

The lecture this week will compare and contrast principles of spatial geometry and the experience of gardens and landscapes as shaped by vegetation. Influences of socio political objectives, cultural meaning of plant species, the technology of planting and maintenance of landscapes, and programmatic purposes will be discussed.

European Traditions: Raxworthy, Julian, Overgrown Chapters 2 and 3
Asian Traditions:
Islamic Traditions:
American Modernism: Raxworthy , Julian

Discussion:

How do the elements of planting design compare to the elements of architectural design? What do we have in common and what are the additional opportunities or constraints of working with vegetation?

In Class Work :

- **5 minute Presentations of Assignment 1**
- **Preliminary modelling – Please bring cutting mats, sharp exacto knives, scissors and hot glue guns to class.**

Assignment 2 : Spatial Definition with Vegetation

Due September 6 th Presentations in Class

In your groups develop a physical model focusing on the vegetation as the elements that define it. Develop the following:

1/4" = 1'-0" Physical Model using the materials provided in class. You may supplement these materials if you need to. No laser cutting other physical fabrication is required.
Provide photos from a human scale perspective illustrating the spatial qualities of the vegetation.

The objective is to model the spatial definition provided by the vegetation.

Sept 6 – Plant Ecology and Palette Development

The lecture in this class will be a brief review of local Southern California plant communities and the introduction of the concept of designed plant communities composed of native and acclimated plants. The lecture will also introduce typical methodologies and practice in conducting site analysis and planting palette development for the purpose of planting design.

In Class Work :

- **5 minute Presentations of Assignment 2** Presentation of models describing the spatial elements of the vegetation
- Preliminary site analysis

Assignment 3 : Site Analysis

Due September 13 th Presentations in Class

For the space you documented in Assignment 1 and 2 develop a thorough site analysis documenting the following:

- Solar (Sun/Shade) analysis diagram
- Topographic / Hydrology Diagram
- Existing Vegetation Plan
- Site Program Diagram
- Percoloation test – instructions to be provided

September 13 – Planting design and Documentation Methods and Software

This class will be a hands on workshop to develop CAD drawings using the Land Fx plugin to facilitate the documentation of planting plans and legends. We will review planting plan documentation conventions.

Bring your laptop and power supply with Autocad and the student license of Landfx Academic (landfx.com) loaded and ready to use in this class.

Assignment 4 : Existing Vegetation Landfx Drawing

Due September 20 th Pin up in Class

Existing Vegetation in Landfx – translate your site existing vegetation drawing into Landfx with a labelled plan and plant schedule

September 20 - Field Trip 1 Location TBA

Reading: Background information on firm responsible for field trip project.

Assignment – Field Notes summarizing the design firm's objectives, conceptual theory and intent.

September 27 – Planting Design – Landscape Performance

The lecture for this class will discuss vegetation's role in climate resilience performance. There are a variety of software tools including itree and carbon calculators that have been developed to quantify the benefits of trees. The LAF Case Study Investigation series and other similar models.

Reading for this class:

Journal Article: TBD

LAF Case Study : TBD

Mid Term Assignment – Landscape Performance – Quantity and Quality – Distributed

Due Date October 18

October 4- Field Trip 2 Location TBD

Reading: Background information on firm responsible for field trip project.

> **Assignment** – Field Notes summarizing the design firm's objectives, conceptual theory and intent.

October 11 Planting Design as Art and Cultural Interpretation

- Reading Assignment – Articles on Roberto Burle Marx as artist, plant hunter and designer

Guest Lecture - Maria Vilalobos Botanical City
Maria studied architecture at the Universidad Rafael Urdaneta, in Maracaibo Venezuela. In 2017, Carla Urbina and Maria received the National Award of Venezuela's Architecture Biennale for their project: Botanical Urban Landscapes: Lessons from Roberto Burle Marx's Botanical Garden in Maracaibo, Venezuela. It was the first time that a Landscape Architecture Project and women received such honor.

October 18 -

- **5 minute Presentations of Mid Term Assignments**

October 25 – Field Trip 3 – Location TBD

Reading: Background information on firm responsible for field trip project.

> **Assignment** – Field Notes summarizing the design firm's objectives, conceptual theory and intent.

November 1 Debates and Emerging Trends in Global Planting Design

- Reading Assignment – Articles on the subject matter, Nina Marie Lister, Beth Meyer, Giles Clement, etc.

This class will discuss how planting design is at the core of discussions and debates related to the field of landscape architecture and priorities related to climate resilience, ecological health, labor practices, aesthetics and public health.

> **Class Discussion –** Can the landscape satisfy all of our needs? How do we prioritize our values and what each project can achieve?

November 8 – Field Trip 4 Location TBD

Reading: Background information on firm responsible for field trip project.

> **Assignment** – Field Notes summarizing the design firm's objectives, conceptual theory and intent.

November 15 – Designing More Resilient Planting Palettes and Higher Performance Landscapes for the USC UPC Campus

Reading for Class: Case Studies in Campus landscape planning

Guest lecture by Evan Mather and the MIG office to describe their work on the development for a more resilient palette for the USC campus. The firm will review the campus objectives and their methodology to develop quantifiable benefits to reduce potable water use and increase habitat value on the campus.

Class Work : Individual site selection for final project.

> **Assignment 5**– Submit critical response to MIG USC campus project. Preliminary site analysis of individual site selection.

November 22 – Workshop on Campus Site Scale - Performance Planting Design

Meetings with students to review site selection, site analysis, site program and objectives, and preliminary planting palettes.

Final Project Distributed – Final project will explore the design multiple concepts for a selected campus landscape space. Each student will prepare multiple concepts for one specific space including: high performance/high habitat value, design focused on interpretive or cultural value, and one student determined objective to be discussed with the instructor. Final projects to include one plan with all species, sizes and quantities noted, a planting schedule and one character perspective for each option.

November 29 – Final Workshop on Campus Site Scale - Performance Planting Design

> In class work on planting design and presentation techniques. Review of site performance data.

To Be Scheduled - Final Project Presentation - Campus Facilities, Operations and Maintenance + USC Sustainability Office

Per USC Exam Schedule Final Exam Date is Thursday December 8th 2-4 PM Final submittal date for all final projects.

Preliminary list of Field Trip Locations

US Federal Courthouse 1st Street – Studio MLA

Veterans Park at Palisades Recreation Area – Pamela Burton and Co.

Fremont Wellness Center and Community Garden 7821 South Avalon Blvd., 90003 – LA Neighborhood Land Trust

Residential Landscape Design – Virtual Tour – KAA

Location TBD -Terremoto

Readings and Assignments

All assignments will be posted on Blackboard and must be submitted on Blackboard for credit.

All readings must be completed before the class meeting in which they have been assigned. Readings will be posted on Slack and Blackboard in advance of the class they are assigned for.

Classroom Norms All students are expected to contribute to class discussions and share their life experience and perspectives. We will use respectful language and make space for equitable and inclusive discussions. In order to achieve our course learning objectives your instructor will be responsible for time management to accommodate the course content. USC is an open campus and from time to time there are unpredictable events that occur on the campus. If a stranger enters our classroom or joins our group while we are on a field trip, I will actively ask them to leave the classroom or the group. My primary concern is your safety. It is my responsibility as your faculty to notify USC DPS if strangers enter our classrooms or if there are other potential situations that require assistance

Course Notes
Students will be expected to utilize in person site observations, site documentation, research, simple physical modelling and spatial design skills.

Course Evaluations Please fill out the course evaluations when available. They are an important and valuable method for the school to obtain your feedback.

Technological Proficiency and Hardware/Software Required
Students will utilize hand sketching, Adobe Suite, Auto Cad, Land Fx and simple physical modelling. If students have proficiency with digital modelling they may use them as an alternative.

USC technology rental program
We realize that attending classes online and completing coursework remotely requires access to technology that not all students possess. If you need resources to successfully participate in your classes, such as a laptop or internet hotspot, you may be eligible for the university's equipment rental program. To apply, please submit an application. The Student Basic Needs team will contact all applicants in early August and distribute equipment to eligible applicants prior to the start of the fall semester.

Course Expenses
Students are expected to attend all field trips. Transportation will be required to visit 3 of the sites which are off campus. The instructor will work with students to arrange car pools.

USC Technology Support Links
Blackboard help for students
Software available to USC Campus

Sharing of course materials outside of the learning environment

SCampus Section 11.12(B)

Distribution or use of notes or recordings based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study is a violation of the USC Student Conduct Code. This includes, but is not limited to, providing materials for distribution by services publishing class notes. This restriction on unauthorized use also applies to all information, which had been distributed to students or in any way had been displayed for use in relationship to the class, whether obtained in class, via email, on the Internet or via any other media. (See Section C.1 Class Notes Policy).

Required Readings and Supplementary Materials
All readings will be supplied on line posted on Blackboard or on a Class Google Drive folder.

Grading
Individual work is expected to be completed by students per the University academic conduct policies. Group work requires an equal level of effort by all group members. Students will provide a peer review of the group work and be evaluated on their contributions to the group products. Students are expected to spend 4 hours of time per week on homework, reading or other preparation for class.

Grading Breakdown

Field Trip Notes - 4 Field Visits	12%
Homework Assignments 5	40%
Mid Term Assignment	20%
Final Assignment	20%
Class Participation	8%

Class participation is based on active involvement in class discussions, field trips and guest lectures. Attendance alone will not be considered participation.

Assignment Submission Policy
Assignments will need to be submitted on Blackboard. Late assignments will have grade reductions of 1/3 grade per day late.

Attendance
All students will be expected to attend class under the policies of the School of Architecture.
https://drive.google.com/open?id=18d7XLQRSiJmUXV8_8yw1wgzKNKXiq6XW&authuser=emargulli%40usc.edu&usp=drive_fs

If a student has a planned absence or is aware that an illness will affect attendance please notify your instructor ahead of time.

Preliminary Bibliography

Beardsley, John Editor, Cultural Landscape Heritage in Sub-Saharan Africa, Dumbarton Oaks, Washington, DC. 2016

Beattie J. Imperial Landscapes of Health: Place, Plants and People between India and Australia, 1800s–1900s. *Health and history*. 2012;14(1):100-120. doi:10.5401/healthhist.14.1.0100

CUFR Tree Carbon Calculator CUFR Tree Carbon Calculator (CTCC) | Climate Change Resource Center (usda.gov)

Itree Tree Benefits! | i-Tree (itreetools.org)

Joyce, David, The Perfect Plant, Stewart , Tabori and Chang, NY, NY 1998

Mao, Selena, Planting Resilience, Identifying Climate Resilient Tree Species and Increasing Their Presence in Los Angeles' Urban Forest, Treepeople, July 2021

McPherson, Gregory, Berry, Alison, Van Doorn, Natalie, *Performance testing to identify climate-ready trees,* Urban Forestry & Urban Greening, November 2017

Moore CW, Mitchell WJ, Turnbull W. The Poetics of Gardens . MIT Press, 1988

Rainer T, West C. Planting in a Post-Wild World : Designing Plant Communities for Resilient Landscapes . First edition. Timber Press

Raxworthy J. Overgrown : Practices Between Landscape Architecture & Gardening . The MIT Press, 2018

Rogers Elizabeth Barlow. *Landscape Design : a Cultural and Architectural History* . Harry N. Abrams; 2001.

Rose, James, Creative Gardens, Reinhold Publishing, New York, NY, 1958

Rubin G, Warren L. *The California Native Landscape : the Homeowner's Design Guide to Restoring Its Beauty and Balance* . Timber Press; 2013.

Sunset, S*unset Western Garden Book* . 6th ed., completely rev. and updated. Sunset Publishing Corporation, 1995

Vogt, Benjamin, A New Garden Ethic , New Society Publishers, BC, Canada, 2017

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 Research and Scholarship Misconduct.

Students and Disability Accommodations:

USC welcomes students with disabilities into all of the University's educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to

be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at osas.usc.edu. You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call
studenthealth.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
suicidepreventionlifeline.org
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) 740-9355(WELL), press "0" after hours – 24/7 on call
studenthealth.usc.edu/sexual-assault
Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office for Equity, Equal Opportunity, and Title IX (EEO-TIX) - (213) 740-5086
eeotix.usc.edu
Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298
usc-advocate.symplicity.com/care_report
Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

The Office of Student Accessibility Services (OSAS) - (213) 740-0776
osas.usc.edu
OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.
USC Campus Support and Intervention - (213) 821-4710
campussupport.usc.edu
Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity, Equity and Inclusion - (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
Emergency assistance and avenue to report a crime. Latest updates regarding safety, 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.

Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)
ombuds.usc.edu
A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

*Occupational Therapy Faculty Practice - (323) 442-33*40 or otfp@med.usc.edu
chan.usc.edu/otfp
Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.