Architecture 635 Landscape Construction Assembly and Documentation

Spring 2021

Class Location: On Line
Instructor: Esther Margulies ASLA
3 units Thursdays 9 am to 11:50 Other meeting times will be arranged for guest lectures or discussion groups

Office hours: Thursdays at 12 pm or By Appt.

Contact Information:
Email: emarguli@usc.edu

This course builds an understanding of landscape materials and assemblies, construction documents and sequencing. Students will learn the professional conventions of translating conceptual design into drawings and specifications commonly utilized for the construction of site projects. Illustrated lectures will describe materials commonly used in landscape projects identifying historic material sources, indigenous materials and construction technologies, commercially available material qualities and properties. Students will use a variety of resources to research traditional and emerging materials. Each student will develop a resource of site construction details and work throughout the semester to assemble a site construction document package of drawings.

The semester will begin with instruction in AutoCAD including developing drawings, notation and file management for efficient work flows. Students will utilize observation and sketching to analyze assemblies and develop a process of exploring the development of details based on precedents.

The mid term project in this class will be a progress set of documents refining their previous studio design work. Each student will define a portion of their previous studio project for detailed documentation including materials plans, layout plans, site sections and elevations,

construction details, site lighting, planting and grading plans. The construction details will be developed over the semester.

Students will research emerging technologies and uses of site materials. These research projects will be developed and presented in class.

All assignments will be turned in via Blackboard. The final project will be due on or before the final exam date for this class. All students are expected to observe the class attendance policy and attend all classes unless they provide an acceptable excuse for their absence.

Readings and class announcements will be distributed via blackboard.
The syllabus may be updated periodically throughout the semester.

Learning Objectives:

Students in this course will attain the skills and knowledge to:

1. Navigate through construction document sets and follow their organization.
2. Draft plans, sections and details in AutoCad
3. Produce construction details based on conceptual design
4. Have a working knowledge of a wide range of site construction materials, their common uses and properties.

Course Grading

Construction Detail Assignments 1- 8 24%

Mid term Progress Submittal 20%

Materials Precedent and Research Project 21%

Final Construction Drawing Set 25%

Class Participation 10%

Assignments

Materials and Details 1 – 8 Using the approved design project students will develop details that will ultimately be integrated into their final projects. Students may need to make modifications to their design project to include sufficient diversity of materials.

Materials Research and Precedents – Students will work in pairs to develop a deeper investigation of one topic presented in class lectures. Student reports will investigate projects exhibiting creative use of the materials and other pertinent information. Each report will include documentation of the project designer, site conditions, illustrations of unique and valuable use of the materials. Appropriate topics of investigation are emerging technologies, traditional cultural uses, solutions to unique site or programmatic demands.

Mid term and Final Projects- The mid term project will be a progress submittal building towards the final construction document set. Students will need to submit a materials plan, two overall sections through their site and detail sheets with appropriate details developed for the weekly Materials and Details assignments. The final assignment will be a complete construction document set including the following sheets: Cover Sheet and general notes, Materials Plan,

Layout Plan, Site Sections, Construction Details, Planting Plan and details and Landscape lighting plan and fixtures.

Class Participation
Class participation is evaluated on the basis of a student's engagement in class discussions in class and on our class Slack Channel. Students are expected to complete assigned readings and observation sketches. All students are expected to ask questions and describe their observations in conversation with the instructor and their classmates.

Class Attendance and Additional Work Requirements
Attendance at all class meetings is mandatory. Students must notify the instructor and request to be excused prior to the class meeting time. Students are expected to spend a minimum of 6 hours of additional work time each week outside of class time to complete readings and assignments.

Specific content and presentation requirements for all assignments and reviews will be provided by the instructor.

Attendance Policies
The School of Architecture's general attendance policy is to allow a student to miss the equivalent of one week of class sessions – one full class for classes that meet once per week, before directly affecting the student's grade and ability to complete the course. If additional absences are required for a personal illness/family emergency, pre-approved academic reason/religious observance it is the student's responsibility to inform the instructor prior to the absence. Oversleeping or work on other classes are not excused absences.

For each absence over that allowed number, the student's letter grade may be lowered up to one full letter grade.

Students learning asynchronously are expected to attend all class sessions by watching class recordings. Discussion sessions will be scheduled to meet with students in other time zones.

Required Skills:
This course will require hand drawing, Auto CAD drafting and illustrations.

Software
MS Office or equal, Adobe Creative Suite, Auto CAD PC version is strongly preferred. Students must have the program installed on their laptops. All mac users must have bootcamp and use the PC version of Auto Cad https://www.autodesk.com/education/free-software/featured

Required Materials
Hand sketching materials – pencils, eraser, measuring tape
Laptops will be required in class for all Cad lessons Students are expected to be working in CAD during the class time.

USC Technology Support Links
Zoom information for students

Blackboard help for students
Software available to USC Campus

Classroom Norms and On Line Etiquette

Our goal for this semester is to replicate the experience of in person learning and the social aspects of that experience. All students are encouraged to ask questions during class or if attending asynchronously post questions on the class Slack channel. I will endeavor to answer all questions to the best of my ability.

All students who are attending classes synchronously are requested to maintain their video on if their conditions and connections will allow. There will be times when students are working in breakout rooms without the instructor and on group assignments. All students are expected to be present and participate simulating group work typically performed in class or outside of class.

Please respect your fellow students and instructor, listen actively and allow your classmates the opportunity to speak. Ask clarifying questions if you don't understand something that was said. Use the Zoom chat feature or Slack channel constructively to ask questions or share information but don't allow it to become a distraction for you or your classmates during class.

Class Schedule

Date	**Lecture Topics and Field Trips**	**Readings and Assignments**
Thursday Jan 21	1. Class Introduction A. Syllabus review B. Class Expectations C. Assignment D. Academic Integrity 2. Concept to Detail Process 3. Lo – Tek + High Tech	In Class • Term Project Identification • Observation # 1
Thurs Jan 28	**Construction Document Sets + CAD #1** Project Phases and level of documentation from Schematic Design to Construction 1. Construction Document Structure Plans, Details, Specifications 2. CAD Class #1 –File set up, Layer management, Lineweights, Base Plans and importing images and files.	**Assignment 1 –** Base Drawing Term Project Due Date Wednesday February 3rd 10 pm **All students are expected to have AutoCad installed and to use it in class.**
Thurs February 4	**CAD Class #2** 1. Instruction on Drawing annotation, Hatching, sheet set up and plotting 2. Resources for construction information on materials, details and assemblies. 3. Workshop time to troubleshoot issues with Term Project Base Plans	**Assignment 2 –** Preliminary Materials Plan – Term project Due Date Wednesday February 10th 10 pm **All students are expected to have AutoCad installed and to use it in this class session.**

Thurs February 11	**Materials Lecture : Paving 1 Plastic Materials** 1. **Cast in Place Concrete Paving, Curbs and Stairs –** Properties, Qualities, Considerations**,** specifying and detailing 2. **Asphalt -** Properties, Qualities, Considerations, specifying and detailing 3. **CAD Troubleshooting**	**In Class – Materials Observations posted on Slack discussion sections** **Assignment 3 –** Plastic Paving Details Due Date Wednesday February 17th 10 pm
Thursday Feb 18	**Materials Lecture : Paving 2 Unit Masonry** 1. **Precast Concrete Unit Paving –** Properties, Qualities, Considerations**,** specifying and detailing 2. **Natural Stone Paving -** Properties, Qualities, Considerations, specifying and detailing 3. **Lo – Tek Adobe** 4. **Student Presentation Plastic Paving**	**Assignment 4** – Precast Unit and Stone Paving Details Due Date Wednesday February 24th 10 pm
Thurs February 25	**Materials Lecture: Walls –** 1. **Wall Design** Structural loads, materials, finish treatments, soil mechanics, sub drainage design considerations 2. **Walls Documentation Methods:** Plan, detail and specification conventions and standards. 3. **Lo- Tek** Subak Construction 4. **Student Presentation Plastic Paving**	**Assignment 5 -** Wall Details Due Date Wednesday March 3rd 10 pm
Thursday March 4	**Materials Lecture Wood Lumber and Living** 1. **Lumber –** Commercial sizes, materials, sources, certifications. 2. **Wood Decks and Fencing –** Framing, foundations, connections 3. **Lo – Tek –** Living bridges and walls 4. **Student Presentations** Site Walls	**Assignment Mid Term Project** Progress Due in Class Thursday March 11

Thurs March 11	**Mid Term Presentations** **Term Project Progress** **Materials Plans, Sections and Details**	**Assignment 6-** Wood deck or cladding details Due Wed March 17th 10 pm
Thurs March 18	**Mid Term Presentations – session 2** **Student Critiques and comments** **Materials Lecture – Metals** **1. Metals –** Sources, materials, standard sizes, special conditions, standards, assemblies in screens, fencing, railings, structures and framing.	
Thurs March 25	**Materials Lecture - Planting Design and Details** **2. Plant Materials –** Sources, standard sizes, special conditions, standards **3. Planting Detailing –** standard notes, details and modifications based on specific conditions **4. Guest focused on planting details** **5. Student Presentations –** Wood and composites	**Assignment 7 - Metals** Due Wed March 24th 10 pm **Assignment 8 - Planting Details** Due Wed March 31 st 10 pm
Thursday April 1	**Systems and Materials Irrigation Systems –** **1.** A landscape designer's guide to understanding irrigation systems, water conservation, calculations, code requirements and documentation. **2. Guest Lecture** – Irrigation Equipment and systems **3. Student Presentations** Metals	
Thurs April 8	**Systems: Green Walls and Living Roofs** **Materials and Systems Lecture** **1. Living Roofs –** green roof systems, components, coordination, benefits. **2. Green Walls –** vertical green wall systems, architectural coordination, maintenance and life span. **3. Student Presentations –** Planting Details	
Thursday April 15	**Site Lighting Systems:** **1. Site lighting –** code requirements, safety and the shaping of space thorough light. **2.** A landscape designer's guide to understanding landscape lighting systems, water conservation, calculations, code requirements and documentation. **3. Student Presentations -** Green Walls and Roofs	**Final Project –** Progress Print Due Wednesday April 21 10 PM

Thursday April 22	**Wellness Day no Class**	
Thursday April 29th	**Last Class** **1. Construction Set Review-** organization, general notes, detail references. **2. Final Project Work Sessions** **Breakout reviews with instructor and classmates**	
Final Assignment Due May 11th at 10 am	**Final Projects Due on Blackboard**	Post on Blackboard

Estimated Course Costs
Text Book Costs from $25.00 and up on Amazon for rental or purchase.

Bibliography

Required Text Books

Hopper, Leonard Landscape Architectural Graphic Standards Student Edition, Wiley and Sons, 2007, Hoboken, NJ

I recommend that you rent this book for the semester. It is available at a very affordable rental price from Amazon. Amazon will ship to China. If you are out of the US please order this book as soon as possible. You will need it by the first week of February.

Additional Sources:

Calkins, Meg Materials for Sustainable Sites : a Complete Guide to the Evaluation, Selection, and Use of Sustainable Construction Materials . Wiley; 2009.

Dines, Nicholas, Time Saver Standards Concise Site Construction Details Manual, McGraw Hill, NY NY, 1999

Hopper, Leonard Landscape Architectural Graphic Standards Student Edition, Wiley and Sons, 2007, Hoboken, NJ

Sauter, David, Landscape Construction, Thompson Delmar Learning, Clifton NJ, 2005

Thallon, Rob and Jones, Stan, Graphic Guide to Site Construction, The Tauton Press, Newtown, Conn. 2003

Walker, Theodore D., Site Design and Construction Detailing, Van Nostrand, NY, NY. 1992

Watson, Julia *Lo-TEK : Design by Radical Indigenism* . Taschen; 2020

Yglesias, Caren, The Innovative Use of Materials in Architecture and Landscape Architecture: History, Theory and Performance, McFarland, Jefferson, North Carolina 2014 – Available on line via USC Electronic Library

Zimmermann Astrid, Constructing Landscape: Materials, Techniques, Structural Components. 3rd, rev. and expand ed. Basel: Birkhäuser; 2015.

Required Software: AutoCad current version Download the free student version here

https://www.autodesk.com/education/free-software/autocad

Guest Lecturers

Jaime Yamashita OotDL

Additional Guest TBD

Grading Scale

Course final grades will be determined using the following scale

A	95-100
A-	90-94
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72 This is a failing course grade for graduate students
D+	67-69
D	63-66
D-	60-62
F	59 and below

The expectation for group assignments is that students participate equally. Students who do not do their fair share of the work will receive a lower grade.

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 scientific misconduct, policy.usc.edu/scientific-misconduct.

In this course using another student's original drawing or submitting a direct copy of a drawing is considered plagiarism. All submitted drawings must be drawn by the student with original linework unless specifically approved by the instructor. Product cut sheets may be incorporated into detail sheets only for lighting.

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 of Equity and Diversity (OED) - (213) 740-5086 | Title IX – (213) 821-8298
equity.usc.edu, titleix.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 of Equity and Diversity |Title IX for appropriate investigation, supportive measures, and response.

The Office of Disability Services and Programs - (213) 740-0776
dsp.usc.edu
Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

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 at USC - (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.