

LA 366 Landscape Technologies II

Course description: Consideration of aesthetic and engineering properties of materials and processes of landscape construction; communication of design intent through documentation.



“Utility does not permit unsoundness or frailty, for between use and beauty there is a close relationship. Utility demands faithfulness in objects; it does not condone human self-indulgence. In creating an object intended for practical use, the maker does not push himself to the foreground or even, for that matter, to the surface. With such objects, self-assertion and error – if present at all – are reduced to a minimum. This may be one reason why useful goods are beautiful.”

Muneoshi Yanagi (1889–1961),
The Unknown Craftsman; A Japanese
Insight into Beauty (1989).

Objectives:

- Understand *materials* that comprise the built landscape,
- Comprehend basic *engineering* principles,
- Establish the essential *vocabulary* of landscape construction,
- Practice the *graphic* language of landscape detailing,
- Hone skills of hand *lettering* and hand *drawing* related to detail mechanics,
- Explore inspiring designers’ *built works* and local neighborhood examples.

Course structure: The class will meet twice a week, with a general schedule of one to two hours inside for lectures and one hour or less outside exploring materials in a physical sense. Journal assignments will be due every Tuesday that there is not an exam or quiz. Assigned readings will accompany lectures and will aid in completion of required drawings. The final project will be an assembly, elaboration and improvement of the weekly drawing assignments resulting in a basic collection of detail types for future use.

Technologies II, LA 366

Tentative Schedule as of 2/02/2021

Spring 2021
Arica Duhrkoop-Galas and Sam Alig, GE
Tuesdays and Thursdays, 10:15-11:45

Recommended Prerequisite:
Tech I, LA 362
4 Credits

This course explores landscape materials, aesthetic and engineering properties, and basic structures while developing graphic skills relevant to the design process – from schematic concept to communication of design intent to construction documentation.

The Schedule:

Tuesday	Thursday
3.30 Introduction & Journaling Zoom meeting 10:15 am	4.01 Detail mechanics & Lettering Zoom meeting 10:15 am
4.06 Soils & Engineering Zoom meeting 10:15 am Assign 1 due: pictures	4.09 Foundations & Connections recorded lecture, Zoom 11:15 am
4.13 QUIZ on Canvas, due 11:15am Wood, recorded lecture	4.15 Masonry: Stone + walking tour (Panopto video)
4.20 Masonry: Brick + walking tour Zoom meeting 10:15 am Assign 2 due: stone masonry	4.22 Masonry: Concrete + walking tour Zoom meeting 10:15 am
4.27 Concrete & Asphalt + walking tour Zoom meeting 10:15 am Assign 3 due: brick/conc. masonry	4.29 Metal, Glass, Plastic Zoom meeting 10:15 am
5.04 MIDTERM EXAM Canvas, no class meeting time	5.06 Stairs, Ramps, Curbs Zoom meeting 10:15 am
5.11 Walls Assign 4 due: stairs	5.13 Fences, Screens + walking tour
5.18 Wooden structures Assign 5 due: fences/screens	5.20 Decks, bridges, platforms
5.25 Horticultural bldg. systems Assign 6 due: wooden structures	5.27 Stormwater technologies Cost estimating / Final Prep.
6.01	6.03
R E V I E W	W E E K / N O C L A S S

FINAL PROJECT DUE 11:45 am, Thursday June 10

Grades: Grades will be based on six journal assignments (120 points), six lettering pages (30 points), a final project (80 points), one quiz (40 points), and a mid-term exam (60 points).

Required books: Available at the UO bookstore, online resources, reference in AAA library
** do not get student edition.

Landscape Architectural Graphic Standards, Leonard J. Hopper, 2007.

Optional books: Available at the UO bookstore, online resources, on reserve in AAA library

Sustainable Landscape Construction: A Guide to Green Building Outdoors, 2nd Ed., J. William Thompson and Kim Sorvig, 2007.

Constructing Landscape: Materials, Techniques, Structural Components, Astrid Zimmerman, 2009.

Additional resources:

Materials for Sustainable Sites, Meg Calkins, 2008. – see online version too

Graphic Guide to Site Construction, Rob Thallon and Stan Jones, 2003.

Landscape Construction, David Sauter, 2010.

Landscape Architecture Construction, Landphair & Klatt, 1998.

The Garden Design Sourcebook, David Stevens, 1995.

The Greenroof Manual, Snodgrass & McIntyre, 2010.

Timesaver Standards for Landscape Architecture, Charles Harris and Nicholas Dines, 1998.

Learning objectives

Upon completion of the course with a satisfactory grade students will be able to:

- analyze built works through sketchbooks and make inferences about their construction
- understand basic principles of soils and engineering relative to landscape structures
- apply knowledge of building materials and vocabulary to drawing construction details
- specify standard construction methods for typical landscape structures
- properly apply line weights to help clarify detailed materials
- redline details and provide corrections
- hand letter

If you have a documented learning disability and anticipate needing accommodations in this course, please make arrangements to meet with Arica soon. Please request that the Counselor for Students with Disabilities send a letter verifying your disability.

TECH II ASSIGNED READINGS 2021

4.06

Canvas: "Building Construction Illustrated"

Textbook section on Soil Mechanics, (standard book version pp. 300-311)

4.08

Textbook:

- Individual sections on Footings and Foundations: (standard book version p. 507)
- Related "Footer" tables (standard book version p. 506, pp. 559-560, 585-586, & 592)
- Preview: Lecture on Blackboard

4.13

Textbook section on Wood and Related Materials in section Part 4: Materials

4.15

Canvas: Essentials of Masonry PDF

Textbook sections on the following:

- Stone: Freestanding Walls, Stone: Veneer Walls
- Masonry: Mortar and Grout

4.20

Canvas: Essentials of Masonry and two documents on Efflorescence

Textbook: Brick section's 4 general info pages, plus pages on Brick pavers and walls, 1 pg on Mortar joints

4.22

Canvas: Concrete Masonry Units

Textbook: Mortar for masonry, Concrete masonry units, Concrete masonry walls, Concrete unit pavers

4.27

Textbook sections on Asphalt (7 pgs) and Concrete (25 pages) in the "Part 4: Materials" section.

4.29

Textbook section on Metals (12 pgs) and individual pages on Metal Tubing, Gratings, Ornamental Ironwork, and Perforated Metals in the "Part 4: Materials" section.

5.06

Textbook:

- Ramps (main sections and sections on accessibility and details)
- Stairs (main sections and sections on concrete, construction details, design considerations)
- Handrails for ramps
- Handrails for stairs

5.11

Textbook pages on "Walls" and "Retaining Walls"

5.13

Textbook pages on “Fences and screens”

5.18

Textbook pages on “Wood: Freestanding Structures”, “Wood: Overhead Structures”, “Timber Frame System”

5.20

Textbook pages on “Timber Bridges” and “Wood Decks” – both are extensive sections, please review all sub-sections.

5.25

Textbook

Green roofs sections; general info plus nine small sections

Stream Restoration section

5.27

Textbook sections on:

- Surface Drainage Systems,
- Runoff Control Systems
- Site Design for Stormwater Management
- Stormwater Conveyance
- Stormwater Quality Control
- Rainwater Harvesting

TECH II ASSIGNMENTS AT A GLANCE – Use your best judgement about going to public spaces to complete versus researching online or in magazines. Always include a photograph of your selected built form so we can assess your standard detail.

4.06 JOURNAL 1: Take pictures of the detail forms from your favorite spot on campus, favorite urban plaza, courtyard, or residential garden. Compile both overall shots and fine scale shots of five different hardscape elements. Try to document what makes these detail forms special; the scaled relationship of the parts, the connections to adjacent materials, the complexity or simplicity, materiality or craftsmanship. Title your photos and add descriptions as appropriate.

LETTERING PAGE 1: Write the entire alphabet, then fill the rest of the page by repeating each letter of the alphabet five times. Use front and back if you need, to get through every letter.

4.20 JOURNAL 2: Find/research and document three different applications of stone masonry. Pay attention to the cap, batter, sizes and locations of larger stones, and transitions to adjacent materials. Draw one standard, scaled detail for stone masonry - using your course book to complete. Include dimensions, notes, labels, and symbols as appropriate. For your standard detail, provide a list of the construction steps and materials involved for cost estimating.

LETTERING PAGE 2: Write your name. Repeat until the page is full. Explore formal and informal styles. Play with it.

4.27 JOURNAL 3: Find/research and document three different applications of brick and/or concrete masonry. Find a mix of both horizontal and vertical examples. Pay attention to edges, corners and transitions to adjacent materials. Draw one standard, scaled detail for brick or concrete masonry - using your course book to complete. Include dimensions, notes, labels, and symbols as appropriate. For your standard detail, provide a list of the construction steps and materials involved for cost estimating.

LETTERING PAGE 3: Write words you would typically find on a site plan or survey; scale, section, north, survey, drawn by, revised, building, parking, site, property line, patio, bench, boulder, lawn, plant bed, path, gravel, concrete, fence, wall, stone,- – anything you can think of. Fill the page.

5.11 JOURNAL 4: Find/research and document three different applications of stairs and steps – preferably made of dissimilar materials or used in distinct ways. Draw one standard, scaled detail for concrete stairs - using your course book to complete. Include dimensions, notes, labels, and symbols as appropriate. For your standard detail, provide a list of the construction steps and materials involved for cost estimating.

TAKE HOME PAGE 1: Redline (identify and give instructions to correct) the errors on the given detail. Be sure to use your best architectural lettering for the labels throughout.

5.18 JOURNAL 5: Find/research and document three different applications of fences, screens, or panels made of dissimilar materials; like wood, concrete or steel. Draw one standard, scaled detail - using your course book to complete. Include dimensions, notes, labels, and symbols as appropriate. You will need a plan, section, and elevation to illustrate a complete picture. For your standard detail, provide a list of the construction steps and materials involved for cost estimating. TAKE HOME PAGE 2: Redline (identify and give instructions to correct) the errors on the given detail. Be sure to use your best architectural lettering throughout, focusing on short phrases and how a string of words aligns and fits together.

5.25 JOURNAL 6: Find/research and document two different applications of wooden structures. Pay attention to sizes of the various members, end details, connections, hardware, level of finish, ratios and components that recall basic engineering principles. Draw one standard, scaled detail - using your course book to complete. Include dimensions, notes, labels, and symbols as appropriate. You will need a plan, section, and elevation to illustrate a complete picture. For your standard detail, provide a list of the construction steps and materials involved for cost estimating.

TAKE HOME PAGE 3: Redline (identify and give instructions to correct) the errors on the given detail. Be sure to use your best architectural lettering throughout, focusing on multi-line text and how to keep your lettering consistent from beginning to end.

6.09 FINAL PROJECT - Detail library notebook: For each journal assignment 2 through 6, create two or more sheets to combine your revised drawings into a single presentation. Use a single sheet to display your standard, scaled detail for that material or detail form with edits based on your received redlines. Use a second sheet to compile the pictures and sketches from your assignments representing that material. The format should be 11" x 17" and you can use more than two pages per material if necessary. Use principles of page layout to design a balanced, nice looking sheet. Bind your pages together in a folder or a custom booklet, so they are not all loose. This is meant to be a beautiful, working, accurate, and inspiring resource that you might include in your portfolio. Examples of past work will be made available for reference.

COST ESTMATING Based on on the legwork you have done to make your construction and materials list for each journal assignment, finish the task for one select detail. If you choose flatwork calculate for 100 square feet. If you choose wall work calculate for 10 lineal feet, if you choose a fence or screen calculate for two full panels, and if you choose a wooden structure calculate for the entire structure.

BACKGROUND AND INTENT OF THE ASSIGNMENTS

Determine if you want your final project to be representative of a residential site or an urban site as an overall theme, to guide your selections through the term. In either case, the materials we have chosen for you to detail would be part of many typical sites and will prepare you designing such places. For instance, when you are asked to design a screen it is nice to have a resource to refer back to for inspiration and notes on how to specify or build it. You will be guessing about construction techniques and then backing up that guess by incorporating information from the textbook. You will also be correcting observed details by drawing the standard way to build.

FURTHER INSTRUCTION

Each week you will submit a true to scale scan of your journal assignment and your lettering or take-home assignment as noted for that specific due date, with uploads due at 10:00 am. After the lecture, we will review the assignments together to share lessons learned and things to watch for. You can expect a response, including redlines and a grade the following week.

GRADING FOR ASSIGNMENTS

Journal assignments will be worth 20 points each. Your work will be evaluated on completeness (how well you followed instructions and met the assignment requirements), scale and accuracy, level of care, and presentation.

Lettering and take-home assignments will be worth 5 points each. Your work will be evaluated on completeness, level of care, and improvement/progress in understanding.

A = done with extra care, exceeded basic requirements, improved over previous assignment

B = done with reasonable care, met basic requirements

C = poor level of care, missing elements of requirements

D = some combination of above, plus turned in late or incomplete

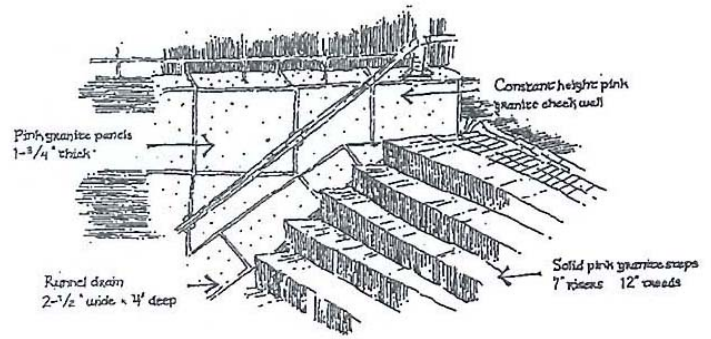
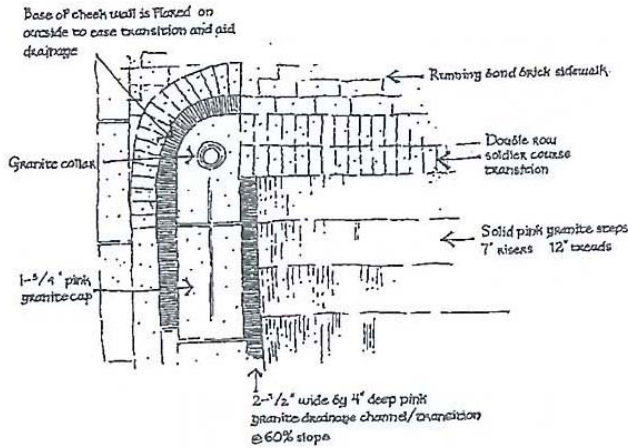
F = not turned in and student did not communicate with instructors for pre-approval

COMBINING YOUR ASSIGNMENTS INTO A FINAL PRODUCT

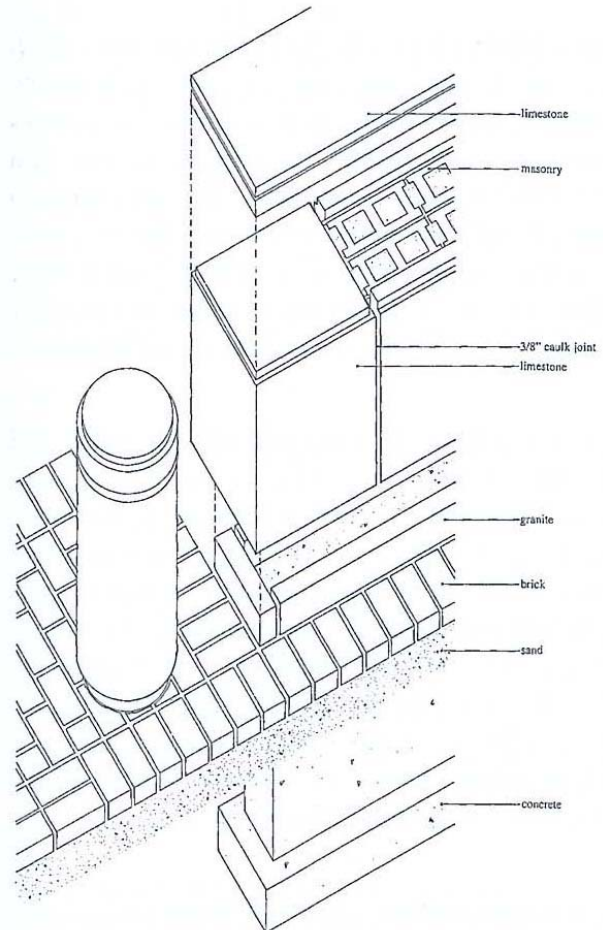
The more work you do for each week's journal, lettering and take home assignments, the better prepared you will be for assembling your final project. The final steps include correcting your errors on your details to bring them to a level of completion, scanning your journal sketches (if you haven't already) and creating a page layout that cleanly displays and thematically supports your chosen residential or urban design scheme. Be sure to use a graphic scale and check scale as you scan and import your work, keeping DPI or pixels/inch consistent to maintain accuracy.

JOURNAL ASSIGNMENTS

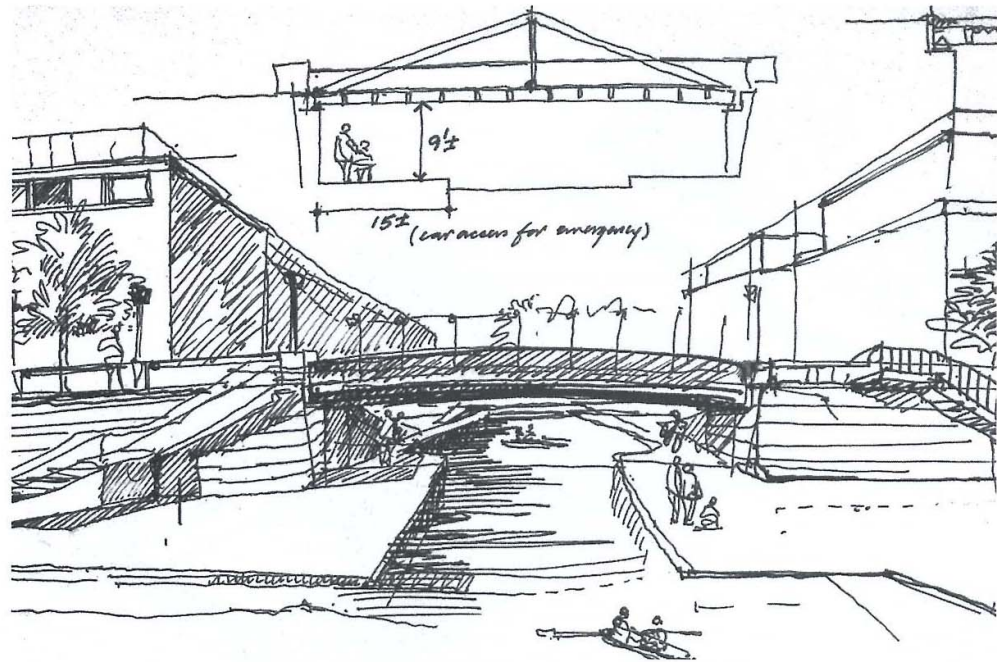
“A *Descriptive Study* is an in-depth study that focuses on the dimensional, perceptual, and formal properties of details and their juxtaposition with adjoining details and assemblies. This is particularly useful in considering discrete landscape elements such as fences, screens, and street furniture. It may go further and prescribe how an element may be applied or used in certain conditions or circumstances.” (Kirkwood, 1999) This type of study consists of sketches, scaled sections and plans, and may include photographs, notes, and written descriptions.



An *Analytical Study* describes a detail's inner workings and organization, the assembly of parts, and the relationship to other detail forms. “The most common use of this category is in the exploration of the junctions and joining of an intricate detail assembly in which each individual detail part is held in a special and constructional relationship to the others. An exploded axonometric form of drawing clearly demonstrates the analysis of built detail forms where there is a hierarchy of inner and outer parts and demonstrates the relationships between substructure and final coverings.” (Kirkwood, 1999)

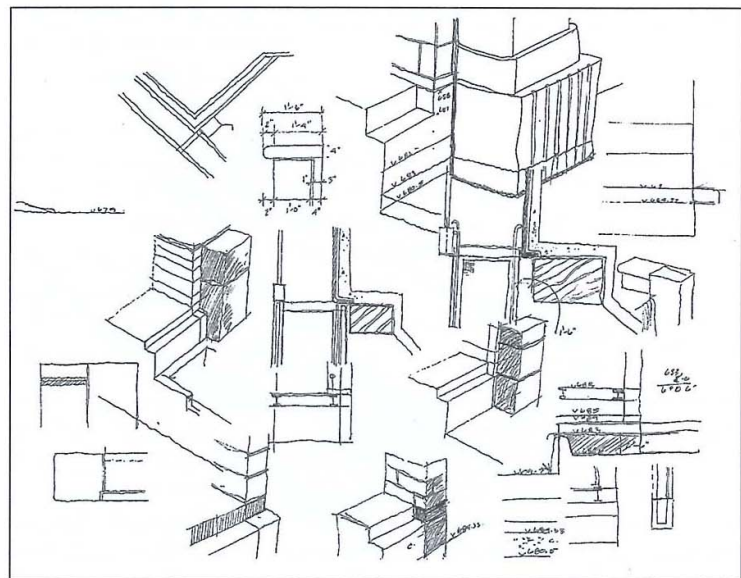


You may choose whichever style seems appropriate for the assigned detail or for your preference of drawing methods. These descriptive studies will inform and be added to your final project, so make them good and make them worth your while. These are meant to help you create a collection of details with which you will be able to design in the future; a library of your own with examples of applications for inspiration. Be sure to label and dimension all drawings and fill the pages with information and small sketches.



▲ Figure 6.12
Detail sketch study. Central Indianapolis waterfront, Indianapolis, Indiana. Courtesy of Alistair McIntosh.

▶ Figure 6.13
Detail sketch studies. Central Indianapolis waterfront, Indianapolis, Indiana. Courtesy of Alistair McIntosh.



EQUIPMENT

Sketchbook: Hard backed, durable covered, plain or lightly gridded paper (no lined writing paper), approximately 8.5" x 11", pages might want to be removable and/or scanned or copied.

Camera: Shoot detail forms at many angles, at many scales – some relative to adjacent materials, some close up to depict assemblies and parts, some with references to scale – coins, rulers, or people in the same image as appropriate.

Measuring tape: Lightweight or pocket sized for easy carrying. Measure and note overall dimensions of objects – height, length, depth, as well as overhangs, offsets, gaps, individual materials, bolts, anything! Take all the measurements you would need to draw and describe how to build the detail form.