

# MATERIALS III : DETAILS & PLANTING TECHNOLOGIES



“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).

CRN 32625 & 32636

time Mon & Wed 10:00-11:50 am, in person - no remote options  
Fridays 9:00-11:50 - field trip locations vary per class announcement

location Peterson 102 - Mon, Lawrence Courtyard - Wed, Straub 151 - Fri

credits 4

instructor Arica Duhrkoop--Galas, Senior Instructor I, ASLA, RLA  
office: Lawrence Hall 212, office hours by appointment and immediately before and after class times  
email: aricad@uoregon.edu

class description *Consideration of aesthetic and engineering properties of materials and processes of landscape construction; communication of design intent through documentation. Spring plants focuses on flowering plants, their identification and design use, and the ecosystem services they provide. It is open to all majors and may be taken as an independent class or as the third class in the Plants sequence. The course will weave together the threads of plant ID, plant care, plant selection, and planting design. Plant identification focuses on flowering trees and shrubs, groundcovers and perennials, with the intention of understanding how flowering plants may be used in design to support both human needs and ecosystem functions. Sketchbook/Journal assignments will help students learn to identify plants via flower morphology and practice a series of short planting design and planning scale investigations.*

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*Lectures and field trips will introduce students to a variety of design scales with the underlying themes of four categories of ecosystem services:*

- *Supporting services - such as soil formation and nutrient cycling;*
- *Provisioning services - including the food, fuel, fiber and medicines we collect from natural and managed ecosystems;*
- *Regulating services - stormwater management and climate regulation, carbon sequestration, and pollination;*
- *Cultural services - the beauty of the outdoors and the recreational, therapeutic, educational and spiritual roles of plants and materials in human quality of life.*

assignments	<p>Journal assignments will investigate flower morphology and evaluate a planting combination while practicing illustrative plant concept drawing techniques via a sketchbook.</p> <p>Detail packets will investigate constructed precedents and will be a mix of hand drafting and CAD. Assigned readings will accompany lectures and will aid in completion of required drawings.</p> <p>Professional hand lettering is a required component of every submittal.</p>
final project	<p>The final project will be a fully developed planting plan practicing one of the themes we have covered in class or students may propose an independent study based on their major or studio project. Themes include but are not limited to stormwater gardens, phytoremediation, pollinator gardens, green roofs, color-based design, perennial edibles, or sustainability such as drought tolerant, native and native analogue for climate change, restoration.</p>
learning outcomes	<p>Upon completion of the course with a satisfactory grade, students will be able to:</p> <ul style="list-style-type: none"><li>• Understand materials that comprise the built landscape</li><li>• Establish the essential vocabulary of landscape construction</li><li>• Practice the graphic language of landscape detailing</li><li>• Hone skills of hand lettering and hand drawing as well as CAD drawing related to detail mechanics</li><li>• Explore other designers' built works &amp; local neighborhood examples</li><li>• Correctly identify and name an additional 120 plants</li><li>• Understand how flowers and fruit help distinguish plant families</li><li>• Apply basic color theory to planting designs</li><li>• Evaluate neighborhood plant combinations and suggest corrections</li><li>• Design a space the celebrates/enhances/explores one or more of the ecosystems services categories</li><li>• Produce a seasonally balanced plant list and a professionally labeled planting plan</li></ul>

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schedule

\*subject to change, refer to Canvas and instructor emails

Mondays 10:00-11:50		Wednesdays 10:00-11:50		Fridays 9:00-11:50	
4/1	Introduction Detail mechanics & lettering	3	+ plants	5	Lecture: Color Theory Lab: Flower Morphology
8	Soils & Foundations + sketch workshop	10	Pollinator mini-talk + plants <b>Journal 1 due</b>	12	Guest Lecture: Planting Design Panel
15	Connections & Wood + sketch workshop	17	Reading Summary (Emerging Landscapes) + plants <b>Journal 2 due</b>	19	Field Trip: Nursery Net NW + Armitage Wholesale Nursery
22	Masonry: Stone, Brick, Concrete	24	<b>Test #1</b>	26	Lecture: Planting Plan Mechanics + plants
29	Poured concrete & Asphalt + dimensions/layout plans	5/1	Climate Resilience mini + plants	3	<b>Review design proposals and preliminary plant lists</b> + FX planting demonstration
6	Material walking tour <b>Detail packet #1 due</b>	8	Reading Summary (Ecosystem Services) + plants	10	Field Trip: Residential Gardens Guest Lecture: Friends of Trees + plants
13	Grade change devices: Walls, Stairs, Ramps	15	Phytoremediation mini + plants	17	<b>Planting Plan Review</b> + studio grading help?
20	Wooden assemblies: Fences, Screens, Structures <b>Detail packet #2 due</b>	22	Reading Summary (Phyto Chapter 1) + plants	24	Field Trip/Guest Lecture Greenroofs & Stormwater + plants
27	NO CLASS MEMORIAL DAY HOLIDAY	29	<b>Test #2</b>	31	Field Trip/Guest Lecture Coyote Prairie Wetlands
3	R E V I E W   W E E K - N O   C L A S S				
10	.....Optional Test #3 Tuesday June 11, 10:15 am..... .....MLA Journal #3 Tuesday June 11, 9:00 pm.....				

Note: Schedule subject to change. Check your email prior to departing for meeting location. Students are responsible for reading course updates from instructor - sent via Canvas email.

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canvas Course documents, assignments, and information will be uploaded to Canvas. All your schedules and submittal requirements can be found there. Primary course communication will occur on Canvas. Make sure you have Canvas alerts turned on so you are notified of updates.

To access our course Canvas site, log into [canvas.uoregon.edu](https://canvas.uoregon.edu) using your DuckID. If you have questions about using Canvas, visit the Canvas support page. Canvas and Technology Support also is available by phone (541-346-4357) or by live chat on the Live Help webpage.

grades Grades will be based on two detail packets (200 points), the best two out of three plant ID tests (200 points), a two-part planting design exercise (120 pts combined), two plant journal assignments (40 pts), and field trip attendance (10 pts/ea x 4 = 40 pts). The grading scale is unusual because the heavy focus is on design and graphic work rather than testing knowledge.

Test scores must average 65 or better to pass the class. Grading rubrics for each assignment to be provided on Canvas along with assignment detail. The grading scale is:

100 %= A+	90-91= B+	81-82= C+	72-73= D+
94-99= A	85-89= B	76-80= C	67-71= D
92-93= A-	83-84= B-	74-75= C-	65-66= D-
			64 and below= NP

supplies Recommended supplies:  
'Prismacolor' colored pencils, 'Rite in the Rain' all-weather writing paper, 5x/10x hand lens, approximately 8.5x11" sketchbook, engineering scale, red pen or pencil, drafting pens and pencils, computer per department standards loaded with AutoCAD free student version.  
*All of these items may be purchased at the bookstore. Students needing financial assistance with purchases may apply for a subsidy through UO's Basic Needs Program.*

required book Recommended for assemblies & detailing:  
*Landscape Architectural Graphic Standards, Leonard J. Hopper, 2007.*

optional books *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.*

*Several books have been ordered for Spring term and are available at the bookstore. They are all optional, but we feel they would be particularly helpful to this class and your design work.*

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*Select which books you might buy based on your own personal focus and ask if you need guidance. Out of print books may be found online.*

### additional books

Materials for Sustainable Sites, Meg Calkins, 2008. - 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.

Recommended for plants:

Herbaceous Perennial Plants, Armitage

Flower Finder, A guide to identification of spring wildflowers and flower families, Thielguard Watts.

Planting Design Handbook, Second edition, Robinson

Designing with Plants, Oudolf and Kingsbury

Landscape Graphics, Reid

The California Wildlife Habitat Garden, Bauer

Pocket Guide to Ornamental Grasses, Darke

The Encyclopedia of Grasses for Livable Landscapes, Darke

Field Guide to Trees of North America, Kershner for National Wildlife Federation

The Sibley Guide to Trees, Sibley

Trees for Green Streets, Portland Metro

Flora of Oregon, Meyers, Jaster, Mitchell, Hardison, Eds.

Planting Green Roofs and Living Walls, Dunnett and Kingsbury

Phyto, Kate Kennen and Niall Kirkwood

### disabilities

Students With Disabilities

If you have a documented disability or anticipate needing accommodations in this course, please make arrangements to meet with the instructor in the first two weeks of the quarter. Please request that the Counselor for Students with Disabilities send a letter verifying your disability.

### expectations

Academic Honesty Policy

All work submitted should be your own and originally produced for this course. While there will be times when students are encouraged to work together and assist one another, each student is expected to complete his or her own work individually. Violations will be taken seriously and are noted on disciplinary records.

Highest professional standards will be expected and maintained throughout the term. Active in-class participation and progress is very important and is part of a passing grade. This includes research, preparation for and participation in class activities and discussions, respecting



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the rights and property of others, working cooperatively with other students, following instructions, and engaging respectfully and thoughtfully with others.

### attendance policy

Students are expected to attend each session for the full time allotted. Absences beyond that allowed in this policy will require prior approval (only for things like medical emergencies, family bereavement, etc.). If you are feeling ill please do not come to class. Students with visible flu-like symptoms will be asked to leave. Contact the instructor for any for online resources and accommodations to stay on track. It is the responsibility of students to catch up on materials missed.

### deadlines

Projects are due on or before the beginning of the class period of listed due dates, unless otherwise noted. Email the instructor as soon as you can if anything may prevent you from meeting a deadline as scheduled.

### coursework

Please retain copies of all work submitted and the original copy of all work returned to you during the term until the final course grade has been posted. In the event of any question concerning whether grades have been accurately recorded, it is your responsibility to provide these copies as documentation. Please retain all work, both progress and final, in a digital format. The instructor will inform you when and how to submit this work for archiving during the course of the quarter.

### courtesy

Please set your cell phone on silent during class time. You are welcome to use your smartphone for research purposes provided it does not become a barrier or distraction to your and your classmates' education or the ability of the instructor to teach. No phone use allowed during tests. Please help maintain a quiet learning environment for others.

### communication

Expect and Respect Diversity: All classes at the University of Oregon welcome and respect diverse experiences, perspectives, and approaches. What is not welcome are behaviors or contributions that undermine, demean, or marginalize others based on race, ethnicity, gender, sex, age, sexual orientation, religion, ability, or socioeconomic status. We will value differences and communicate disagreements with respect. We may establish more specific guidelines and protocols to ensure inclusion and equity for all members of our learning community.

Help Everyone Learn: Part of how we learn together is by learning from one another. To do this effectively, we need to be patient with each other, identify ways we can assist others, and be open-minded to receiving help and feedback from others. Don't hesitate to contact me to ask for assistance or offer suggestions that might help us learn better.

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academic resources	The University's Teaching and Learning Center (TLC) provides various programs, workshops, courses, tutors, and mentors to aid you in your coursework at the University of Oregon.
academic integrity	<p>The University Student Conduct Code (available at <a href="http://conduct.uoregon.edu">conduct.uoregon.edu</a>) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should complete their own work and not give or receive unauthorized help on assignments without express permission from the instructor. Students should properly acknowledge and document all sources of information (e.g. quotations, paraphrases, ideas) and use only the sources and resources with integrity. If there is any question about whether an act constitutes academic misconduct, it is the students' obligation to clarify the question with the instructor before committing or attempting to commit the act. Additional information about a common form of academic misconduct, plagiarism, is available at:</p> <p><a href="http://library.uoregon.edu/guides/plagiarism/students/index.html">http://library.uoregon.edu/guides/plagiarism/students/index.html</a></p>
accessibility	The University of Oregon is working to create inclusive learning environments. Please notify me if there are aspects of the instruction or design of this course that result in disability-related barriers to your participation. You are also encouraged to contact the Accessible Education Center (formerly Disability Services) in 164 Oregon Hall at 541-346-1155 or <a href="mailto:uoaec@uoregon.edu">uoaec@uoregon.edu</a> .
diversity and equity	<p>The University of Oregon is dedicated to the principles of equal opportunity and freedom from unfair discrimination for all members of the university community and an acceptance of true diversity as an affirmation of individual identity within a welcoming community. This course is committed to upholding these principles by encouraging the exploration, engagement, and expression of distinct perspectives and diverse identities. We will value each class member's experiences and contributions and communicate disagreements respectfully. Please notify me if you feel aspects of the course undermine these principles in any way. You may also notify the Department of Landscape Architecture at 541.346.3634 or at <a href="mailto:landarch@uoregon.edu">landarch@uoregon.edu</a>. For additional assistance and resources, you are also encouraged to contact the following campus services:</p> <p>Office of Equity and Inclusion, 1 Johnson Hall, 541.346.3175 <a href="http://oied.uoregon.edu">http://oied.uoregon.edu</a></p> <p>Center on Diversity and Community, 54 Susan Campbell Hall, 541.346.3212, <a href="http://codac.uoregon.edu">http://codac.uoregon.edu</a></p>

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Bias Response Team, 164 Oregon Hall, 541.346.1134,  
brt@uoregon.edu, <http://bias.uoregon.edu>

## required readings

DETAILS ASSIGNED READINGS 2023 – page numbers based on 2007, 1st edition; refer to index.

### 4.08

Canvas: “Building Construction Illustrated”

Canvas: preview lecture

Textbook:

- section on Soil Mechanics, (pp. 300-311)
- Individual sections on Footings and Foundations: (p. 507)
- Related “Footer” tables (pp. 506, 559-560, 585-586, & 592)

### 4.15

Textbook section on Wood and Related Materials in section Part 4: Materials (pp. 998-1011)

### 4.22

Canvas: Essentials of Masonry and two documents on Efflorescence

Canvas: Concrete Masonry Units

Textbook sections on the following:

- Stone: Freestanding Walls, (pp. 497,498,514) Stone: Veneer Walls (p. 496)
- Masonry: Mortar and Grout (pp. 961-963)
- Brick section’s four general info pages (pp. 954-958),
- Brick pavers (pp. 434-437, 442, 443)
- Walls (pp. 497, 519, 954-957)
- Mortar joints (pp. 961-963) and Mortar for Masonry (p. 500),
- Concrete masonry units (pp. 959-960) and Concrete masonry walls (pp. 496-497)
- Concrete unit pavers (pp. 437-441)

### 4.29

Textbook sections on Asphalt (pp. 916-922) and Concrete (pp. 923-953) in the “Part 4: Materials” section.

### 5.13

Textbook:

- “Walls” (p. 455) and “Retaining Walls” (pp. 505-513)
- Ramps - (pp. 455, 472-476) and sections on accessibility (p. 280) and details (pp. 484-486)
- Stairs - (pp. 464-472) and sections on concrete (p. 487), construction details (pp. 467-472), design considerations (pp. 464-467)



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- Handrails for ramps (pp. 473-474, 488-492) and Handrails for stairs (pp. 466-467, 488-492)

### 5.20

#### Textbook:

- “Fences and screens” (pp. 455, 521-558)
- “Wood: Freestanding Structures” (pp. 559-562) and “Wood: Overhead Structures” (pp. 563-570),
- “Timber Frame System” (p. 559)
- “Timber Bridges” (pp. 595-600) – both are extensive sections, please review all sub-sections
- “Wood Decks” (pp. 585-594) – both are extensive sections, please review all sub-sections

#### PLANTS ASSIGNED READINGS

“Emerging Landscapes: Using Ecological Theory to Guide Urban Planting Design: An adaptation strategy for climate change”, MaryCarol Hunter, Landscape Journal, Vol. 30, No. 2 (2011), pp. 173-193

Stable URL: <http://www.jstor.org/stable/43324373>

Green Infrastructure for Landscape Planning: Integrating Human and Natural Systems, Gary Austin, 2014

Chapter 4 - Ecosystem Services

Phyto: Principles and Resources for Site Remediation and Landscape Design, Kate Kennen and Niall Kirkwood, 2015

Chapter 1 - Phytotechnology and the Contemporary Environment: An Overview