

Course Syllabus

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Office Hours: TBD

Class: Tu / Th 6:00pm – 7:20pm, Gould Hall 435

Course Description

This course is the first in a series of classes on the technical design aspects of Landscape Architecture. The course content will introduce the concepts and methods behind landform grading and drainage and how they are used as powerful design and problem solving tools. This class will emphasize the relationship of grading and drainage plan graphics to their actual three-dimensional applications. The understanding of these basic design techniques and graphics will allow students to further express designs in detail while also providing the tools necessary to solve basic site grading and drainage problems. The intent is to ultimately prepare students to think about and utilize *an ecological and artistic approach to landform and drainage*.

Learning Objectives

This class is designed for students to learn how to create ecologically and artistically appropriate landform for individual sites and to produce graphically accurate depictions of grading and drainage plans.

Students will learn:

- three-dimensional (3-D) literacy: familiarity of translating two-dimensional (2-D) plans into 3-D form and existing landscapes into 2-D plans.
- problem solving abilities in 3-D: studying and creating design solutions in three dimensions.
- to understand the basic functional and ecological implications of landform manipulation.
- to utilize the potential of landforms and to be aware of the artistic component to grading
- familiarity with common professional standards in grading / drainage, including ADA accessibility.
- graphic communication techniques commonly used in construction documents.

Class Format

Class Logistics

Class meets twice a week on Tuesdays and Thursdays (6:00-7:20pm). Students are expected to attend class. Most Tuesday classes will begin by submitting homework (HW) assignments. Questions about HW will be handled via office hours with the TA's.

Email addresses for TA's are located on the top of this syllabus.

The majority of class time will be spent with lessons, demonstrations, and in-class work. Please bring notebook, trace, pencils, calculator, scales, and other equipment to class.

Please remain in class for the entire session because, if there is an issue that instructors are seeing repeatedly, clarification will be announced to the entire group.

Some class time may be spent outside observing sites. Please come prepared for the weather.

Lessons / demonstrations

Lessons will include conceptual and technical information needed to successfully complete exercises, assignments, projects and quizzes. Class will begin with basic landform / drainage concepts and principles and expand on them to give an overall understanding of the subject. **This subject matter is cumulative.** Thus it is important to keep up with the lessons to succeed in this class.

Format for exercises / homework:

Homework assignments are to be neatly hand-drawn **OR** digital drafting is acceptable. Students may chose. Typically homework is due on Mondays at the beginning of class.

Course Topics and Assignments:

An overview of the course topics and assignments by week follows.

<u>week</u>	<u>topic / focus</u>
1	intro to types of landforms, constraints, contours, landform signatures
2	watersheds, slope formula & interpolation
3	grade change devices: stairs, ramps, walls, & ADA requirements
4	linear elements: paths, sidewalks, curbs, Quiz #1
5	linear elements: terrace grading, swale design
6	storm water management, erosion control, Quiz #2
7	drainage methods / components, site planning
8	case study presentations
9	review, Quiz 3
10	review, Quiz 4
11	all final work due, archive work to Canvas

Texts / Reading

Readings and exercises will be assigned to complement the lessons. **Students will need to complete the assigned readings prior to the next lesson.** Additional readings may be given as handouts or put on the class Canvas site. The class may have further discussions on the readings/handouts during class time, thus, come prepared. Quiz content will include information from the readings.

A class text is required :

Strom, Steven, Kurt Nathan and Jake Woland. 2013. **Site Engineering for Landscape Architects, Sixth Edition.** Hoboken, NJ: John Wiley & Sons, Inc.

The following texts / downloads are great resources:

Thompson, J. William and Kim Sorvig. 2000. Sustainable Landscape Construction: A Guide to Green Building Outdoors. Washington, D.C.: Island Press.

Untermann, Richard K. 1978. Principles and Practices of Grading, Drainage and Road Alignment: An Ecological Approach. Reston, VA. Reston Publishing Company, Inc.

Aymer, Valerie. 2010. Landscape Grading: A Study Guide for the LARE Grading Examination. ISBN:978-0-557-38507-2.

Harris, Charles and Nicholas Dines, co-editors; assistant editor Kyle D. Brown. 1998. *Time-Saver Standards for Landscape Architecture: Design and Construction Data*. New York: McGraw-Hill.

Rottle, Nancy and Ken Yocom, 2010, [Basic Landscape Architecture 02: Ecological Design](#). Ingram Publisher Services, Inc.

Other Books:

[Land Art](#) by Gilles A Tiberghien, and [Earthworks and Beyond](#) by John Beardsley

Green infrastructure references:

Ahern, Jack (online). [From fail-safe to safe-to-fail: sustainability and resilience in the new urban world](#). Special 100th Anniversary issue of *Landscape and Urban Planning Journal*. http://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1008&context=larp_grad_research

Pauleit, Stephan; Liu, Li; Ahern, Jack ; and Aleksandra Kazmierczak 2011. "[Multifunctional green infrastructure planning to promote ecological services in the city](#)" in *Urban Ecology: patterns, processes and applications*, Niemelä, Jari, Editor, Oxford University Press.

Novotny, Vladimir; Ahern, Jack; and Paul Brown. 2010. [Water-centric Sustainable Communities, planning, retrofitting and building the next urban environment](#). John Wiley & Sons, Hoboken. 606 pp.

Ahern, Jack. 2007. "[Green Infrastructure for Cities: The Spatial Dimension](#)". In *Cities of the Future: Towards integrated sustainable water and landscape management*. Novotny, Vladimir; Brown, Paul, Editors. IWA Publishing, London. pp. 267-283.

Landscape Architects/ Landform Artists:

Michael Heizer	Richard Haag	Maya Lin
Robert Smithson	Kathryn Gustafson	George Hargreaves
Herbert Bayer	AE Bye	James Turrell

Equipment Required

In addition to the required text, students will need to have a **hand-held calculator or cell phone**. Most of the other necessary materials will be from earlier studios. If not, students will need the following for hand-drafted homework assignments and handmade models. Note: some equipment is not necessary if completing digital work.

trace paper (12" is fine for most)

architect's scale

engineer's scale

pencil + eraser

drafting tape

scissors

glue

cardboard or cardstock

modeling clay + floss

Course Evaluation

The final grade will be determined by a combination of the following: the quality and accuracy of the assigned work, reading reflections, bonus points (if applicable), and quiz results. The final grade will be based on a point total - for each exercise and quiz, resulting in a course grade per the University's 4.0 to 0.0 system. Refer to the assignment sheet for the point allocation for the quarter.

Reflections (8 points):

Weekly reading is required. It is important to keep-up with the assigned readings. Quiz questions will be taken from the readings. Some weeks a brief reflection (1-page max.) on the readings will be collected. There are six (6) assigned readings / reflections. Refer to the class calendar and the assignment sheet for exact due dates.

Exercises/Homework – take-home (36 points):

Exercises will be comprised of cumulative principles, techniques, demonstrations, and discussions from lessons. Homework assignments will typically be due at the beginning of class on the due date.

Quiz (44 points):

Four in-class quizzes will be given during the quarter. These will be made up of true/false, multiple choice, grading & drainage exercises, and/or short-answer questions. All information requested on a quiz will be included in lessons and/or class readings. The quiz content will challenge students to solve a multitude of grading and drainage problems using the material learned throughout the quarter.

Case Study Presentation (12 points):

Student teams will research and report on a particular site – from the point of view of the site landform and drainage as it relates to design. Details will be provided. Individual and class reflections are included in the points.

Late Assignments:

Assignments will need to be completed on time to keep up with the subsequent lessons presented. If students encounter unusual circumstances that prevent one from completing work on time, contact the instructor in person or by email to make necessary arrangements. Without such arrangements, work turned in late will be reduced by 10% of their value for every day late, until 50% is reached.

(One 'free-late' per quarter for take-home exercises is permitted.)

Bonus points: (7 points max.):

Bonus exercises will be offered during the quarter.

General Considerations

It is the responsibility of the student to inform the instructors about any absences, difficulties, concerns, or questions that may limit a student's ability to participate in this class.

- Due to the technical nature and the cumulative content of this class, it is very important that you fully participate in all of the classes. If you are unable to attend class, it is the responsibility of the student to inform the instructor. If you miss more than three classes, a note from a doctor or medical professional will be required.
- Listening to views other than your own with an open mind using direct communication will help to foster a respectful and creative environment. Being conscious of not monopolizing discussion and/or interrupting will help create this environment as well.
- If you have a disability that requires accommodations, please let me know immediately so you can succeed in this class and/or contact Disabled Student Services, 448 Schmitz, Box 355839 (206) 543-8924, [uwdss@u.washington.edu \(mailto:uwdss@u.washington.edu\)](mailto:uwdss@u.washington.edu). Other campus resources are: UW Campus Counseling Center | 206.543.1240; After Hours Crisis Clinic | 206.461.3222; Hall Health Mental Health Clinic | 206.543.5030
- Please properly cite all text and photographs used for homework in this class

Assignments Summary:

Date	Details	
Thu Sep 29, 2016	 LARC 331 Campus Walk (https://canvas.uw.edu/calendar?event_id=928244&include_contexts=course_1092605)	9am to 10:20am

Tue Oct 4, 2016	 HW #3a + 3b – Delineation of Watershed, Ridges, Valleys (https://canvas.uw.edu/courses/1092605/assignments/3388030)	due by 9am
Thu Oct 6, 2016	 HW #4 - Stairs (https://canvas.uw.edu/courses/1092605/assignments/3388031)	due by 9am
	 HW #1 - Types of Landform Grading (https://canvas.uw.edu/courses/1092605/assignments/3388028)	due by 6pm
Tue Oct 11, 2016	 HW #5 - Ramps (https://canvas.uw.edu/courses/1092605/assignments/3388032)	due by 9am
	 HW #2 - Topographic Model & Section (https://canvas.uw.edu/courses/1092605/assignments/3388029)	due by 6pm
	 Reading Reflection - Strom Ch. 2 (https://canvas.uw.edu/courses/1092605/assignments/3388043)	due by 6pm
Tue Oct 18, 2016	 HW #6 - Walls (https://canvas.uw.edu/courses/1092605/assignments/3388033)	due by 9am
	 HW #7 - Paths (https://canvas.uw.edu/courses/1092605/assignments/3388034)	due by 9am
	 HW #8 - Sidewalk w/ Curb (https://canvas.uw.edu/courses/1092605/assignments/3388035)	due by 9am
Thu Oct 20, 2016	 Case Study Site Approval (https://canvas.uw.edu/courses/1092605/assignments/3388024)	due by 6pm
Tue Oct 25, 2016	 HW #9 - Terrace (https://canvas.uw.edu/courses/1092605/assignments/3388036)	due by 9am
Thu Oct 27, 2016	 QUIZ 1 (https://canvas.uw.edu/courses/1092605/assignments/3388037)	due by 7:20pm
Tue Nov 1, 2016	 Case Study Outline (https://canvas.uw.edu/courses/1092605/assignments/3388022)	due by 6pm
Thu Nov 3, 2016	 LARC 331 Campus Walk (https://canvas.uw.edu/calendar?event_id=928243&include_contexts=course_1092605)	9am to 10:20am
Thu Nov 10, 2016	 QUIZ 2 (https://canvas.uw.edu/courses/1092605/assignments/3388038)	due by 7:20pm
Tue Nov 15, 2016	 Reading Reflection - Strom Ch. 11 / LID (https://canvas.uw.edu/courses/1092605/assignments/3388042)	due by 6pm
	 Reading Reflection - Strom Ch. 9 (https://canvas.uw.edu/courses/1092605/assignments/3388044)	due by 6pm
Tue Nov 22, 2016	 Case Study Presentation (https://canvas.uw.edu/courses/1092605/assignments/3388023)	due by 6pm
	 Reading Reflection - Strom Ch. 10 (https://canvas.uw.edu/courses/1092605/assignments/3388041)	due by 6pm
	 Case Study Individual Reflection (https://canvas.uw.edu/courses/1092605/assignments/3388021)	due by 6pm
	 Case Study Team Reflection	due by 6pm

Tue Nov 29, 2016

<https://canvas.uw.edu/courses/1092605/assignments/3388025>



Extra Credit #1 - Wheelchair Experience

<https://canvas.uw.edu/courses/1092605/assignments/3388026>

due by 6pm



Extra Credit #2 - Field Trips

<https://canvas.uw.edu/courses/1092605/assignments/3388027>

due by 6pm

Tue Dec 6, 2016



QUIZ 3 (<https://canvas.uw.edu/courses/1092605/assignments/3388039>)

due by 6pm

Tue Dec 13, 2016



QUIZ 4 (<https://canvas.uw.edu/courses/1092605/assignments/3388040>)

due by 12pm
