



A) Introduction - If you can't grade it, you can't build it!

Although designers often work in plan, a site designed purely as a two-dimensional pattern on the land is not likely to work aesthetically or functionally and ultimately may not be buildable. This course will introduce you to the challenges and opportunities that emerge as we begin to address landscape in the third (vertical) dimension. Understanding grading not only is necessary to implement a project; improper consideration of slopes and drainage may also create site conditions that are hazardous to the health and/or safety of users, result in significant structural or environmental damage, and cost you in terms of both professional reputation and liability!

B) Course Objectives

This course is intended to provide a working knowledge of the principles and practice of grading, which will apply to every site development project that you will design throughout your professional career. Upon successful completion of this course, each participant will have acquired the basic skills and applied knowledge necessary to competently develop grading plans for a variety of projects and sites.

Topics covered in this course will include:

- 1) Visualizing, interpolating and calculating slopes
- 2) Earthwork (cut and fill) calculations
- 3) Grading roads, crowns and shoulders
- 4) Accommodating cars: parking lots
- 5) Steps and ramps, ADA accessibility
- 6) Storm water management
- 7) Site design and layout for various type buildings
- 8) Managing water: Rational Method
- 9) Conveying water: pipes vs. swales

All of the above areas are part of a Landscape Architect's skills set and as such they are tested by the LARE (Landscape Architecture Registration Examination).

C) Course Format

1) Lectures and labs

The course will follow a lecture/lab exercise format and will include reading assignments in the required texts. Lectures will be directed toward explaining the process, theory and technique behind the task of shaping landforms. In labs will help you to develop a proficiency in applying the subject matter of the lectures.

It is imperative that students attend **BOTH** lectures and labs for the entire time allocated. Students will also be expected to work outside of classes to complete weekly/biweekly assignments. Only **one** justified absence per quarter will be allowed. Being late more than 1/3 of the lecture class is equivalent to one absence.

2) The UO Campus as a teaching resource

As much as possible, we will try to test our theoretical knowledge in the field. To this end, the instructor will conduct various site visits to sites on the UO campus and students will be asked to document and various campus landscapes and document their topographical conditions through a combination of digital photography, sketching and overlays of the two.

D) Textbooks

NOTE: These textbooks will be useful throughout your careers as landscape architects, so purchasing and reading them is essential!

(P) PURCHASE at Duck Store; (C) Consult on blackboard; (D) Free Download

(P) Strom, N. *Site Engineering for Landscape Architects. Sixth Edition.* New York: Wiley (2013)

(C) Untermann, R. *Principles and Practices of Grading, Drainage and Road Alignment: An Ecologic Approach.* New York: Prentice Hall (1978)

(D) *City of Portland Stormwater Management Manual.*

Available for download at <http://www.portlandoregon.gov/bes/47952>