



Department of Horticulture
Oregon State University
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Course Name: Permaculture Water Management Practicum

Instructor name: Neil Bertrando(he/him)

Instructor email: Neil Bertrando bertrnei@oregonstate.edu

Office Hours: By appointment, please email to set up a Zoom

Link to OSU Permaculture Program Website: <https://permaculturedesign.oregonstate.edu/>

Link to OSU Permaculture Team Website: <https://workspace.oregonstate.edu/osu-permaculture-design-team>

Course Description

Teaches assessment, mapping, and site designs for installing water retention landscapes using integrated water management strategies. Introduces assessment and analysis of rainwater runoff patterns and calculation of runoff quantities and water usage amounts. Teaches principles of water harvesting used to create functional site designs. Examines rainwater harvesting systems case study designs and teaches to identify both water and solar site resources. Creates an integrated permaculture site design based on design principles, water flow and quantity analysis, and overall site condition assessment. Covers rainwater harvesting cisterns, water harvesting earthworks, their integration with greywater treatment, passive solar design, and planning for vegetation.

Communication

Please check the Start Here area and the course syllabus before you ask general course "housekeeping" questions (i.e. who do I contact if I have a problem?). If you don't see your answer there, then please contact the teaching assistant.

Post all course-related questions in the Help! Discussion Forum so the whole class may benefit from our conversation. Please contact the teaching assistant privately for matters of a personal nature. A reply to course related questions will be sent within 1-2 weeks unless the teaching assistant is on vacation or leave.

Instructor Feedback

All feedback is provided by the teaching assistant. Feedback is provided primarily as a discussion reply to your submission on discussion boards. When it relates to deductions of rubric points, feedback is provided in the "rubric comments" box on your assignments submissions page. It is an expectation that you will review these comments and respond if necessary. **Please check your Canvas settings to ensure you receive a message when a grade or comment is submitted on your assignment.** To do this go to your Canvas "account" tab, click on "notifications" and ensure "submission comment" is checked. You can have these notifications delivered to your email, sent as a text, etc. Please review the feedback provided in the assignment discussion board and respond and reply to any comments in the assignment discussion board. These are our primary forum for communication.

Technical Assistance

If you experience any errors or problems while in your online course, contact 24-7 Canvas Support through the Help link within Canvas. If you experience computer difficulties, need help downloading a browser or plug-in, or need assistance logging into a course, contact the IS Service Desk for assistance. You can call (541) 737-8787 or visit the [IS Service Desk](#) online.

Required Readings

- A. Doherty, Darren. "Regrarians Handbook Chapter 2: Geography" Regrarians Limited. 2019
 - a. Students can purchase the book directly from Darren Doherty here:
<http://www.regrarians.org/regrarians-ehandbook-2-geography/>
- B. Doherty, Darren. "Regrarians Handbook Chapter 3: Water" Regrarians Limited. 2019
 - a. Students can purchase the book directly from Darren Doherty here:
<http://www.regrarians.org/regrarians-ehanbook-3-water/>
- C. From Self-Paced course required readings
 - a. Lancaster, Brad. "Rainwater Harvesting for Drylands and Beyond, Volume 1, 3rd edition" Rainsource Press. 2019
 - b. Lancaster, Brad. "Rainwater Harvesting for Drylands and Beyond, Volume 2, 2nd edition" Rainsource Press. 2019
 - i. Students can purchase the books directly from Brad Lancaster here:
<https://www.harvestingrainwater.com/shop/>
 - i. If you prefer, Brad's Website contains links to purchase digital editions on each book's page

Measurable Student Learning Outcomes

A "learning outcome" highlights the specific and measurable skills, attributes, and knowledge that I expect you as a learner to achieve and demonstrate through this course.

1. Define key rainwater harvesting concepts, terms, and principles
2. Assess a site for water retention potential and water uses
3. Make strategic decisions about what features and systems to use for a site
4. Design a conceptual integrated plan for a water retention landscape

Evaluation of Student Performance

Students will be graded on completion of class assignments. Assignment 1 is worth 8 points, Assignments 2-9 are worth 9 points each, and assignment 10 is worth 20 points for a total of 100 points.

All assignments can be revised based on instructor feedback and resubmitted for re-evaluation and an updated grade.

Letter Grades

A=90-100 points, B=80-89 points, C=70-79 points, D=60-69 points, F=59 points or lower

Course Schedule & Assignment

A week in this course begins on Monday and ends on the following Sunday evening. This is a 20 week course with 10 Lessons and Assignments, so each Lesson and Assignment are completed over 2 weeks. Expect to spend 5-8 hours per week reviewing course materials like videos and required readings and completing the assignments.

The assignment for each week is due the Monday of the following week at 9am Pacific time. For example, the Week 1 assignment is due the Monday of Week 3.

The weekly discussions are ungraded and are offered to stimulate initial work on each assignment, facilitate conversation, and improve awareness of other student's situations.

- **Week 1-2: Landform & Watershed**
 - Assignment: Watershed delineation - Macro & Micro watersheds
 - Discussion: Introduce Yourself, Precipitation
- **Week 3-4: Urban Watersheds**
 - Assignment: Contour Lines in an Urban Environment
 - Discussion: Driest Location
- **Week 5-6: Assessing Water Potential**
 - Assignment: Assessment of Water Potential
 - Discussion: Climate
- **Week 7-8: Design Principles**
 - Assignment: Runoff Volume
 - Discussion: Rainwater Harvesting (RWH) Principles
- **Week 9-10: Home-Scale Assessment & Passive Systems**
 - Assignment: Site Assessment & Passive Water Harvesting Concept Design
 - Discussion: Drinking Water
- **Week 11-12: Wastewater Recycling**
 - Assignment: Wastewater Recycling Concept Design
 - Discussion: Wastewater
- **Week 13-14: Active Systems and Integrated Home-Scale Design**
 - Assignment: Integrated Residential Water Harvesting Design
 - Discussion: Site Application
- **Week 15-16: Ponds**
 - Assignment: Pond Site Assessment & Design
 - Discussion: Water Body
- **Week 17-18: Earthworks**
 - Assignment: Broad-acre Rainwater Harvesting Strategies & Structures
 - Discussion: Water Harvesting Example
- **Week 19-20: Village-Scale Design**
 - Assignment: Broad-acre Integrated Water Management Site Design
 - Discussion: Opportunities for Collaboration

Course Policies

Access

This course is available to you in perpetuity as long as it is available through the OSU PACE Canvas platform. After 6 months to 1 year, OSU PACE Canvas may automatically disenroll you from the course. In order to renew your access, all you need to do is send an email request to pace@oregonstate.edu

Late Work Policy

While there is great flexibility in online courses, this is not a self-paced course. In order to keep up with the subject matter, workload, and conversations in the course, it is critical that you complete the majority of your assignments on time.

Incompletes

Incomplete (I) grades will be granted only in emergency cases (usually only for a death in the family, major illness or injury, or birth of your child), and if the student has turned in 80% of the points possible (in other words, usually everything but the final paper). If you are having any difficulty that might prevent you completing the coursework, please don't wait until the end of the term; let me know right away.

Religious Holidays

Oregon State University strives to respect all religious practices. If you have religious holidays that are in conflict with any of the requirements of this class, please email me immediately so that we can make alternative arrangements.

Guidelines for a Productive and Effective Online Classroom

Active interaction with peers and your instructor is essential to success in this online course, paying particular attention to the following:

- Unless indicated otherwise, please complete the readings and view other instructional materials for each week before participating in the discussion board.
- Read your posts carefully before submitting them.
- Be respectful of others and their opinions, valuing diversity in backgrounds, abilities, and experiences.
- Challenging the ideas held by others is an integral aspect of critical thinking and the academic process. Please word your responses carefully, and recognize that others are expected to challenge your ideas. A positive atmosphere of healthy debate is encouraged.

Ground Rules for Online Communication & Participation

Students are expected to conduct themselves in the course (e.g., on discussion boards, email) in compliance with the university's regulations regarding civility. Civility is an essential ingredient for academic discourse. All communications for this course should be conducted constructively, civilly, and respectfully. Differences in beliefs, opinions, and approaches are to be expected. In all you say and do for this course, be professional. Please bring any communications you believe to be in violation of this class policy to the attention of your instructor.

- *Online threaded discussions* are public messages, and all writings in this area will be viewable by the entire class or assigned group members. If you prefer that only the instructor sees your communication, send it to me by email, and be sure to identify yourself and the class.

- Posting of personal contact information is discouraged (e.g. telephone numbers, address, personal website address).
- *Online Instructor Response Policy*: I will check email frequently and will respond to course related questions within 36 hours Monday through Friday, unless I post to the class in advance that I will be offline for a specific period of time. I cannot guarantee a response on the weekend or on National holidays.
- *Observation of "Netiquette"*: All your online communications need to be composed with fairness, honesty and tact. Spelling and grammar are very important in an online course. What you put into an online course reflects on your level of professionalism.
- Here are a couple of references that discuss
 - writing online: <http://goto.intwg.com/>
 - netiquette: <http://www.albion.com/netiquette/corerules.html>.

Expectations for Student Conduct

Student conduct is governed by the university's policies, as explained in the [Student Conduct Code](#).

Students are expected to conduct themselves in the course (e.g., on discussion boards, email postings) in compliance with the university's regulations regarding civility.

Statement Regarding Students with Disabilities

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval, please contact DAS immediately at 541-737-4098 or at <http://ds.oregonstate.edu>. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

Reach Out for Success

University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it's important to reach out. Consider discussing the situation with an instructor or academic advisor. Learn about [resources that assist with wellness and academic success](#). Ecampus students are always encouraged to discuss issues that impact your academic success with the [Ecampus Success Team](#). Email ecampus.success@oregonstate.edu to identify strategies and resources that can support you in your educational goals.

If you feel comfortable sharing how a hardship may impact your performance in this course, please reach out to me as your instructor.

• For mental health:

Learn about [counseling and psychological resources for Ecampus students](#). If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255).

• For financial hardship:

Any student whose academic performance is impacted due to financial stress or the inability to afford groceries, housing, and other necessities for any reason is urged to contact the Director of Care for support (541-737-8748).