

**BEE 499 – Small and Onsite Water Treatment Systems
Course Schedule & Syllabus – Fall 2015**

Instructor: Roger Ely, 201 Gilmore Hall, 7-9409, ely@engr.orst.edu

Office Hours: Email Prof. Ely for appointment.

Information below shown in parentheses indicates pre-class reading assignments.

Week	Tuesdays 2:00-3:20	Thursdays 2:00-3:20
1		Sep 24 Introduction/Approach Sustainability Considerations (Parten, 9-32)
1	Sep 29 Overview, Project Planning/Site Characterization (Parten, 46-64) Guest Speaker – Mr. Rob Turkisher	Oct 1 Project Planning/Site Characterization Field Trip – North Corvallis Sites Mr. Rob Turkisher
2	Oct 6 Effluent Dispersal (Parten, 261-270; 274-307)	Oct 8 Primary/Septic Tank Systems (Parten, 87-103)
3	Oct 13 Primary/Septic Tank Systems (Parten, 104-131)	Oct 15 Sand Filter Systems (Parten, 199-205; 227-231)
4	Oct 20 Sand Filter Systems (Parten, 205-227)	Oct 22 Secondary & Advanced Treatment (Parten 137-164) Field Trip, ORENCO, Inc. Sutherlin, OR
5	Oct 27 Secondary & Advanced Treatment (Parten, 165-171)	Oct 29 Lagoons & Ponds (Handouts)
6	Nov 3 Subsurface Flow Wetlands (Parten, 233-246)	Nov 5 Nutrient Reduction (Parten, 171-175), Disinfection Processes (Parten, 191-197)
7	Nov 10 Wastewater Collection & Conveyance (Parten, 67-86)	Nov 12 Water Sources (Burns pp. 11- 30)Pumping (Burns pp. 31-49)
8	Nov 17 Piping, Valves, Fittings (Burns pp. 50- 69)	Nov 19 Water Quality Determination (Burns 70- 81, Parten pp. 39-45)
9	Nov 24 Onsite Water Treatment (Burns pp. 82-103)	Nov 26 Thanksgiving Holiday
10	Dec 1 Project Presentations	Dec 3 Project Presentations

Grading: In-class exercises and activities - 60%; project presentation – 10%; project report – 30%.

Course Specific Measurable Student Learning Outcomes (See attached figure):

Overall Course Learning Outcome: At the completion of this course, you should be able to *create, specify* in detail (in writing and/or in drawings), and *justify* the specific design of an onsite water supply system and an onsite water treatment system based on, and consistent with, the conditions and constraints of a given site, the advantages, disadvantages, and functions of alternative system components, and water quality conditions and requirements.

Intermediate Learning Outcome 1: Identify important site characteristics and assess their impacts on both onsite water supply and treatment system options.

Intermediate Learning Outcome 2: Identify key water quality parameters and evaluate how they affect water supply and treatment system options.

Intermediate Learning Outcome 3: Identify key water supply and water treatment systems components and combine them to create a complete, functional system.

Foundational Learning Outcome 1: Recognize components typical to onsite water supply and water treatment systems and describe their purposes, functions, advantages.

Foundational Learning Outcome 2: List water quality parameters that may adversely affect human health and/or the environment and explain why they may be important.

Foundational Learning Outcome 3: Recall site characteristics that may affect design of onsite water/wastewater systems and describe why/how they may be important.

Learning Resources: Textbooks (S.M. Parten, Planning and Installing Sustainable Onsite Wastewater Systems; M. Burns, Country & Cottage Water Systems), handouts provided by instructor, lectures, in class activities and exercises.

Statement Regarding Plagiarism

All work turned in must be your own work. **Never copy or otherwise plagiarize someone else's work.**

Statement Regarding Cell Phones and Similar Devices

While class is in session, cell phones and similar devices are not to be used for texting or for any other purpose. You are expected to focus on lectures and other class activities and not to allow yourself to be distracted by your cell phone.

Statement Regarding Laptop Computers

Laptop computers, if used in class, are to be used only for class-related activities. The instructor may provide you with some course materials in an electronic format, and it is acceptable for you to use your laptop computer in class to access those materials. Also, if you desire to do so, you may take notes on your laptop computer. However, the use of laptops for non-class-related activities is not permitted.

Statement Regarding Students with Disabilities

"Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098."

Statement of Expectations for Student Conduct

As engineering students, you are expected to conduct yourselves in accordance with the high ethical standards of the engineering profession. In addition, for information on OSU's policies governing student academic conduct, refer to the following webpage:

<http://oregonstate.edu/studentconduct/regulations/index.php>.

Violations of ethical standards or OSU policies related to student academic conduct will absolutely not be tolerated.