

**BES 302**  
**Environmental Problem Solving**  
(I&S, NW)

**When:** Autumn, 5 credits

**Location:** UW2 144

**Instructor:** Chuck Henry

email: [clh@u.washington.edu](mailto:clh@u.washington.edu)

**Purpose:** This class is designed to introduce the student to all the different aspects of environmental problem solving using computer tools. It will provide a variety of techniques for approaching contemporary environmental problems. Challenging, real-world situations and worked-out solutions provide the means both for gaining insights into the process of problem solving and for thinking quantitatively and creatively about such environmental concerns as energy and water resources, food production, indoor air pollution, acid rain, and human influences on climate.

**Text:** *none required.*

**Web site:** <http://faculty.washington.edu/clh/envprobsolv.html>

**Schedule**

<b>Date</b>	<b>Title</b>	<b>Reading</b>
Week 1: Mon, Mar 29	Course overview, class expectations, Numbers and dimensions	Significant figures readings
Wed, Mar 31	The Design Process; Warm-up exercises	E-Res: The Design Process Harte Chapter 1
Week 2: Mon, Apr 5	Approach to figuring things out	Website Reading
Wed, Apr 7	Tools of the trade	Harte Chapter 2 Intro
Week 3: Mon, Apr 12	Elements to consider in putting a project together: Regulatory	
Wed, Apr 14	Elements to consider in putting a project together: Public acceptance	
Week 4: Mon, Apr 19	Typical soils problems	
Wed, Apr 21	Typical remediation problems	
Week 5: Mon, Apr 26	Steady-state box models and residence times	Harte Chapter 2A
Wed, Apr 28	Coliform tests	
Week 6: Mon, May 3	<b>Midterm exam</b>	
Wed, May 5	Non-steady state box models	Harte Chapter
Week 7: Mon, May 10	Beyond the back of the envelope	Harte Chapter 3 Intro
Wed, May 12	Biochemistry, Climatology	Harte Chapter 3A,B
Week 8: Mon, May 17	Phase 2 bioplastics	
Wed, May 19	Survival of populations	Harte Chapter 3C
Week 9: Mon, May 24	Holiday	
Wed, May 26	Typical water problems	
Week 10: Mon, May 31	Typical energy problems	
Wed, Jun 2	Review	

	<b>Final Exam</b>	
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**Assignments:** Students will be required to do weekly reading assignments. Weekly problems will be given to the students for completion that will be submitted over the internet.

All communication and assignments will be through the internet.

**Grade Will Be Based On:**

Weekly assignments (10 @ 3% each)	30%
Environmental news presentation	10%
Midterm	30%
Final exam	30%

**Student Eligibility:** This class is intended for undergraduate students in environmental science related studies. Prerequisites: BES 301 (which has as prerequisites Chem 142, 152 or equiv.)

### **Academic Honesty**

As UW Bothell students, you are expected to uphold the highest standards of academic conduct. In this class, you should be particularly aware that instances of cheating on exams or plagiarism in writing will be dealt with very seriously. A separate, more detailed handout on academic honesty will be provided to you on the first day of class. You are responsible for reading it thoroughly and understanding its contents.

All work on the exams and papers should be strictly your own and without the aid of any materials not specifically allowed. Plagiarism is defined in the UW Bothell catalog as (I have placed a section in bold and underlined it for emphasis):

“Plagiarism is the use of the creations, ideas or words of someone else without formally acknowledging the author or source through appropriate use of quotation marks, references, and the like. Plagiarizing is stealing someone’s work and presenting it as one’s own original work or thought. Student work in which plagiarism occurs will not ordinarily be accepted as satisfactory by the instructor, and may lead to disciplinary action against the student submitting it. **Any student who is uncertain whether his or her use of the work of others constitutes plagiarism should consult the course instructor for guidance before formally submitting the course work involved.**”