## **Course Design**



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- Ecosystem-wide focus
  - Physical environment
  - Biological system
  - Human management system
  - Human impacts

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- Restoration activities



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# **Course Beta Testing**



- · First time this course is offered
- Trying to pull together a wide range of activities
- I am not a specialist (except in teaching)

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• There is no textbook

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 Mostly just selections from a huge assortment of web pages and online publications

### Course Beta Testing



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- Wide range of students, freshmansenior
- Course is intended to be at a freshman– sophomore level
  - 200 level indicates a more specific course content than a 100-level survey course
  - Puget Sound instead of the whole world
  - Bioregional emphasis for Program on Environment curriculum

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### **Course Beta Testing**



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- · Syllabus will need to be flexible
  - Not sure of the pace at which we will handle the material
- · Assignments are experimental
  - Try different approaches to see what works with this material and this group of students
  - This includes tests as well.
  - Most likely short-answer or essay rather than multiple-choice

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# Two Course Sections



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- Section B = "Lecture" sessions only
  - 3 credits

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- Tuesday & Thursday
- 5 "Forums" with guest speakers
- 3 "Days of Reckoning"
  - Assessments to be determined



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 Learn integrated science of the Puget Sound ecosystem (terrestrial & marine) that supports salmon

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- Learn impacts of human alteration on the ecosystem
- Learn research techniques for understanding the ecosystem
- Learn techniques for restoring the ecosystem





### **Course Objectives**



- Lab/Field section
  - Learn how scientists study the Puget Sound ecosystem that supports salmon
     Especially using computerized tools to provide guidance to management
     Such as mapping and modeling
     Field trip (and lab?) assignments oriented around writing a field guide to salmon habitat restoration sites

# Course Syllabus



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Three Units

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- Three week, three week, four weeks
- Each begins with lecture material
  - Background on science and management
- Each unit culminates with a "Forum"
  - Guest speakers
  - Discuss how the system is managed
    - Challenges and compromises in applying science toward management
    - How the science guides the management

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# Course Syllabus



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- · Each unit culminates with a "Forum"
  - Homework plan: Prepare questions for guest speakers
  - Finish assignment with answers to questions
- Review & integration day follows forum
- Finish unit with exam



January 10 Historic land use changes in the upper watershed (forest & agriculture)	January 12 Impacts of land use on hydrology, water quality, & salmon in the upper watershed	January 13 Lab 2: PRISM IMS & Upper Watershe Case Studies
January 17 Forum: The Shared Salmon Strategy and the recovery effort	January 19 Review	January 20 Field Trip 1: Upper Watershed (Forest Agriculture) Case Study sites
January 24 Exam 1		
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## Unit 2



- Human impacts in lower watershed
  - Use of models in ecosystem recovery
  - Managing land use for recovery in King Co.

	January 26 Salmonid recovery research: mathematical models	January 27 Lab 3: PRISM mathematical models used in ecosystem & salmon recovery
January 31 Historic land use changes in the lower watershed (urban & suburban)	February 2 Impacts of land use on hydrology, water quality, & salmon in the lower watershed	February 3 Lab 4: PRISM mathematical models used in ecosystem & salmon recovery
February 7 Forum: Managing Property for Salmon Recovery in King County	February 9 Review	February 10 Field Trip 2: Lower Watershed Thornton Creek, Seattle
February 14 Exam 2		
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# Unit 3 (Long Unit)



- Impacts on & management of salt water
  - Estuarine & nearshore zone
  - Hood Canal low-oxygen zone
  - Sewage treatment & disposal

	February 16 Estuarine nearshore habitat & food web	February 17 Lab 5: PRISM IMS & nearshore zone
February 21	February 23	February 24
Impacts on estuarine nearshore habitats	Forum: Managing estuarine nearshore	Field Trip 3: Duwamish River restoration
February 28	March 2	March 3
Hood Canal Low-Oxygen Zone	Estuarine Circulation & Water Quality	Lab 6: Virtual Puget Sound & Model
March 7	March 9	March 10
Forum: Managing Hood Canal	Forum: Sewage Treatment & Review	Field Trip 4: West Point & Ballard Locks
	March 16 Exam 2 10:30 – 12:20	18
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## Readings



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- There is a vast library of written material on the subject of this course
   No textbook of this material
- Much of this material is must be filtered for your use
  - Very recent
    - Prompted by legal action concerning Puget
      Sound salmon
  - Written for a different purpose

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- Includes general introductory readings for each unit of the course
  - The underlying science and management principles

### Readings



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- Online readings
  - "Shared Salmon Strategy" report
    - A non-profit group commissioned by government
    - Overview of salmon conditions & recovery plans
    - Adobe Portable Document Format (PDF)
  - External web sites
    - · Government agencies & community groups
    - Some html, some PDF

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### Readings



- Note that latter part of syllabus has incomplete reading assignments
  - More web-based readings added as the course goes along

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- Mostly government pages
- Additional lab & field trip readings
- · May seem like a lot of readings
  - Most are short excerpts
  - Skim the rest for key material

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