

**ENV 302
SHORELINE ECOLOGY
SUMMER 2004**

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Classroom: lecture: McMinnville campus (Murdock 105)
field: Newport area
Meeting times: classroom: Sat-Sun, June 19-20 (9am - 5pm)
field: Sat, July 17 (6am!) - Wed, July 21 (3pm)

COURSE DESCRIPTION

This course is designed to introduce you to the natural history of a variety of environments along the Oregon coast, both aquatic and near-shore terrestrial.

The Linfield classroom portion will concentrate on basic concepts of ecology, geology, and physical and chemical factors that determine the distribution and abundance of organisms, both plant and animal, that we see along the coast. We will also discuss the different types of coastal environments and some of the major organisms found in each. You will also be introduced to the primary methods of identifying these organisms.

The field trip portion will be an up-close survey of the organisms found in several specific environments, including rocky intertidal, estuary, sand dune, and forest. We will also visit a few sites of what could be considered applied ecology - local projects showing environmental cooperation and/or enhancement.

OBJECTIVES

After completing this course, you should be able to

- Understand the importance of geological history in shaping the coastal topography we see today
- Realize the influence of climate and tides in determining the abundance and distribution of organisms
- Focus on the myriad of physical, chemical, and biological factors and processes affecting coastal organisms
- Recognize the magnitude of human impacts on the coastal environment, with current efforts to reduce these impacts
- Appreciate the tremendous diversity of coastal organisms, both aquatic and terrestrial, and the fragility of their microenvironments

COURSE SYLLABUS

Your grade for this course will be derived from three sources, each worth one-third of the total:

1. Take-home exam - to be handed out at the end of the McMinnville weekend
 - due by July 17 (bring to the field trip, or you can e-mail it to me any time if you finish it sooner!)
2. Field notebook - described below
 - to be turned in on the last day in the field
3. Term paper - also described below
 - due (postmarked) by August 2, e-mailed to me or snail-mailed to my address above

REQUIRED "TEXTBOOKS"

Sept, JD. 1999. The Beachcomber's Guide to Seashore Life in the Pacific Northwest. Madeira Park, BC: Harbour Publishing.

Pojar J, MacKinnon A. 1994. Plants of the Pacific Northwest Coast. Redmond WA: Lone Pine Publishing.

Kaufman, K., ed. 1996. Peterson Flash Guide to Pacific Coastal Birds. New York: Houghton Mifflin.

Plus I'll have some supplemental materials for you in class.

READING ASSIGNMENT (before coming to class):

Sept: pages 9-19.

Pojar and MacKinnon: pages 11 - 21.

FIELD NOTEBOOK

What Is It? Any notebook (not 3-ring) that can hold up for several days in the field, without falling apart!

What Size? Minimum 5" x 8", but 8 1/2" x 11" is fine.

What Goes In It? For each field site:

1. Date
2. Location
3. Times of observation (start and end)
4. General weather (sunny, foggy, cloudy, etc.)
5. Type of zone (sandy, rocky, standing water, forest, etc.)
6. ID and sketch of organisms seen, with approximate sizes.
P.S. Don't worry about artistic ability or inability!
7. Any additional comments and/or observations as you see fit.
8. Your overall impression of the site (be honest!)

- Note:
- a. Use pencil - much more waterproof than pen.
 - b. Be as complete as possible - it will never be too detailed!
 - c. Keep it neat and organized as you go!

When Is It Due? Right after the last field trip site (i.e. Wednesday, July 21)

TERM PAPER

Topic: Your choice (!), but it should be related to some aspect of shoreline ecology. As a starting or focal point, you could pick one of the sites we'll visit in the field that you find particularly interesting (either shoreline or applied ecology)

Length: Maximum of eight (8) pages (typed or computer output, 1.5 or double-spaced), so I can get it back to you in a reasonable time.

References: Minimum of five (5), beyond those you have for this course. Use in-text citations (author year) and include a complete reference section at the end. Refer to the Citations and References section (at the end of this syllabus) for details. Since this is a science course, you will be introduced to the CBE (Council of Biology Editors) method of citations.

Addendum - Professor Notes: An increasing number of university professors across the country are putting their lecture notes online, and they frequently show up in most search engines. It is much more preferable to use primary sources (i.e. articles, agency websites, etc.), so these lecture topic summaries should be avoided for our purposes here. You can tell that type of information if part of the web address contains ".edu." For example, ".../und.edu/eco101/wetlands.html" is lecture notes from a professor at the University of North Dakota, and is not to be used for one of your sources.

Note: Do not copy directly from another source or use direct quotes. Instead, summarize in your own words and cite the source.

Due: Postmarked by Monday, August 2 to my address on the first page. Or, you can e-mail it to me as an attachment (with the help of my 17-yr-old computer tech son, I can now download such things!)

WHAT TO BRING TO THE FIELD SITES

1. Shoes for hiking - for getting to and from the sites
 2. Shoes (with a grid sole) for getting wet - for rocky intertidal areas
 3. Small hand lens for examining organisms up close
 4. Small plastic container, for temporarily viewing organisms while keeping them alive
 5. Field notebook
 6. The three course field guides.
 7. Pencils, with small sharpener
 8. Small ruler, for measuring the sizes of organisms
 9. Small water bottle, for drinking water
 10. Portable alarm clock - the best low tides are early in the morning!
 11. Sun glasses (Polaroids work best for water viewing)
 12. Sun block, if you have sensitive skin
 13. A hat, if so inclined
 14. Sweater or jacket - early mornings can be chilly!
 15. Small garden-type hand trowel
 16. Rubber boots, particularly for the estuary sites
 17. Your take-home final
 18. A day backpack, to carry all of the above!
- Optional items:
- a. Binoculars - highly recommended! (birding can be quite good)
 - b. Camera
 - c. Extra field guides, if you want. Check your local bookstore or library.

CITATIONS AND REFERENCES - The Science Way

(adapted from the CBE Style Manual)

In-Text Citations

These could be direct citations:

Smith and Wesson (1991) lobbied against gun control.

or indirect citations:

There was an active lobby against gun control (Smith and Wesson, 1991).

General Rules:

1. Cite your source for specific details, examples, etc. and for any direct quotes (though direct quotes are seldom used in scientific papers).
2. General format: (author, year)

- a. No author? Use (Anonymous, year)

The Forest Dragons have been drawing small crowds to the Coliseum (Anonymous, 1999).

- b. If two (or more) articles by the same author in the same year, use a and b after the year in the text and reference listing at the end, to keep them distinct

Last year's movies are back again for the Oscars (Mahar, 2002b).

- c. Internet source? Use (author, year the site was last updated), or if no author, use (Anonymous, year updated)

Methyl chloroform levels have declined in the stratosphere (Anonymous, 2001).

Important Exception: If your Internet source is from a published format (newspaper, magazine, etc.), cite the published source instead, using the year of publication.

- d. Multiple authors? If two, cite both names; if more, use "and others" after the first author

Mexico City has had the worst air pollution in the last decade (Talbot and others, 2000).

- e. Personal interview (or communication). Format: (Person. year date. position, city. Personal communication)

OR.

According to DW Anderson (1998 Oct 28. Architect, Knob Hill Designers, Beaverton, Personal communication), the 30-ft high sculpture was an appropriate entrance to the Silicon Forest.

Note: These go in your text only, not in the reference listing at the end.

References (or Bibliography)

This should appear at the end of your paper, and should be a complete listing of every source cited in your text (except any personal communication).

A. General Formats:

1. Journal or magazine articles: Author(s). Year. Title. Source. Volume:Pages.

Smith IM, Wesson UR. 1991. Gun control is not for everyone. Rifleman 54:32-36.

2. Books: Author(s). Year. Title. City published: Publisher.

Brown LR. 1997. Tough choices: facing the challenge of food scarcity. Washington, D.C.: Worldwatch Institute.

3. Article within a book: Author(s). Year. Title. Pages in_Book ed. Title. City published:Publisher

Wilson EO. 2003. What is nature worth? Pages 121-130 in Allen JL, ed. Annual editions: environment 03/04. Guilford, CT: McGraw-Hill/Dushkin.

4. Newspaper articles: Author(s). Year date. Title. Newspaper; Section pages.

Eggers K, Jaynes D. 1998 Mar 29. Trailblazers have a decent season after all. Oregonian; Section E1-E2.

5. Internet: Author(s). Year date last updated. Title. <Web site address> Date you accessed.

*Papadopoulos G. 2001 Mar 15. Aquaculture in Greece expands rapidly.
< <http://www.grfishaq.html> > Accessed 2003 Aug 29.*

Important Exception: Again, if it's a published source, use that information here instead of the web address. That is, don't assume every reader has Internet access.

- ### B. Multiple authors? List them all, in the same order they appear in the source.

Talbot GM, Svoboda PR, Payne SW, Enfield KS. 2000. Mexico City: air pollution nightmare. Environmental Science and Toxicology 17:433-440.

- ### C. No authors? Start with [Anonymous]

[Anonymous]. 1999 May 28. Forest Dragons vie for recognition in Portland. Oregonian; Section E3.

- ### D. Same author with two or more articles in the same year? Use a, b, c, etc. after the year, to correspond with your in-text citations

Mahar T. 2002a Apr 1. Oscars yield few surprises. Oregonian; Section D1-D2.

Mahar T. 2002b Apr 4. Oscar winner movies see attendance rise. Oregonian; Section D5.

E. Let's put it all together:

References

[Anonymous]. 1999 May 28. *Forest Dragons vie for recognition in Portland. Oregonian; Section E3.*

Brown LR. 1997. *Tough choices: facing the challenges of food scarcity. Washington, D.C.: Worldwatch Institute.*

Eggers K, Jaynes D. 1998 Mar 29. *Trailblazers have a decent season after all. Oregonian; Section E1-E2.*

Mahar T. 2002a Apr 1. *Oscars yield few surprises. Oregonian; Section D1-D2.*

Mahar T. 2002b Apr 4. *Oscar winner movies see attendance rise. Oregonian; Section D5.*

Papadopoulos G. 2001 Mar 15. *Aquaculture in Greece expands rapidly.*
< [HTTP://www.grfishaq.html](http://www.grfishaq.html) > Accessed 2003 Aug 29.

Smith IM, Wesson UR. 1991. *Gun control is not for everyone. Rifleman 54:32-36.*

Talbot GM, Svoboda PR, Payne SW, Enfield KS. 2000. *Mexico City: air pollution nightmare. Environmental Science and Toxicology 17:433-440.*

Wilson EO. 2003. *What is nature worth? Pages 121-130 in Allen JL, ed. Annual editions: environment 03/04. Guilford, CT: McGraw-Hill/Dushkin.*

Notice the listing is alphabetized, by the first author's last name (or word).

F. Now that you have all the "Do's", just a few brief "Don'ts":

1. Don't use footnotes in your text for sources.
2. Don't cite more than (author year) in your text (except personal communications).
3. Don't include complete references at the end for sources not cited in your text.
4. Don't cite sources in your text without giving the complete listing at the end (again, except personal communications).

Note: The *Italics* used above are just for clarity - they're not needed in your papers.

NEWPORT AREA ACCOMMODATIONS

Summer 2004

If you need overnight accommodations, they tend to fill up rather quickly in the summer, particularly on weekends, so it's best to make your plans soon!

We'll need a minimum of four (4) nights' lodging, from Saturday, July 17 through Tuesday, July 20 (checking out the next morning, July 21). Some economical options are:

Motels: Newport City Center Motel
538 SW Coast Hwy
800-687-9099 (or 541-265-7381)

Money Saver Motel
861 SW Coast Hwy
888-461-3969 (or 541-265-2277)

Econolodge
606 SW Coast Hwy
541-265-7723

Camping: Beverly Beach State Park
541-265-9278 for info (800-452-5687 for reservations)

South Beach State Park
541-867-4715 for info (800-452-5687 for reservations)