

FRANKLIN & MARSHALL COLLEGE

NTW 117/FND 139

Field Studies of the Natural History of the Lower Susquehanna Valley
Spring, 2007

Instructor: Prof. Sternberg
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Class: M 12:30-1:20, W 12:30-4:20, HAC 131
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Course Description

"This course will attempt to develop a sense of place by looking at the Lower Susquehanna Valley from a variety of perspectives, mostly scientific but in part cultural. The course will be highly field oriented, focusing on the region from the Appalachian Mountains to the Chesapeake Bay. It will use field methods and observations plus texts to focus on the geology, hydrology and ecology of the area, and how these have influenced and been influenced by past and present human activity" (*College Catalog*).

In many respects, this course resembles geography, the study of place and space. According to the American Association of Geographers website (<http://www.aag.org>), "Geographers ask where things are located on the surface of the earth, why they are located where they are, how places differ from one another, and how people interact with the environment." The emphasis in this course is on physical geography, although aspects of human geography, which considers the links between natural and cultural systems, will also be considered.

Foundations NTW Courses (from the *College Catalog*)

"Foundations courses are intended to generate excitement about learning by introducing students to fundamental approaches to intellectual inquiry concerning human experience and the natural world. These courses focus on questions and ideas that are central to human thought, perception, expression, and discovery and that transcend the boundaries of conventional academic disciplines. By incorporating a variety of strategies, such as the presentation of conflicting and complementary viewpoints, cross-cultural investigation, laboratory experimentation, problem-solving, and artistic performance, Foundations courses prepare students to approach learning eagerly with a critical and even a transformative eye. Ultimately, the Foundations component of the curriculum is designed to stimulate the imagination, to broaden awareness, and to link classroom learning to outside issues of public concern so that students can make reflective choices about their education as they explore areas that interest them most.

"Courses in [the NTW] category explore, from a variety of perspectives, one or more of the fundamental concepts of scientific inquiry, such as evolution, plate tectonics, atomic theory, the laws of thermodynamics, or the finite age of our expanding universe. Courses may also include such topics as the nature of scientific revolutions and the history of cosmological models."

Goals

Some of the goals for the course are for us to:

- consider ways in which the natural environment and human culture and society are interrelated and comprise an ecoregion;
- understand the importance of observation, measurement, analysis and interpretation for comprehending the natural world;
- consider how natural history is represented and interpreted in different settings, such as museums;
- contemplate how a "sense of place" can be cultivated and appreciated, using a variety of approaches, anywhere that we live;
- develop an awareness about the natural and human landscapes around Lancaster.

Texts

Alden, P., Cassie, B., Kahl, J. D. W., Oches, E. A., Zirlin, H., and Zomlefer, W. B., 1999, *National Audubon Society Field Guide to the Mid-Atlantic States*: New York, Alfred A. Knopf, 447 p.

Stranahan, Susan Q., 1993, *Susquehanna, River of Dreams*: Baltimore, Johns Hopkins University Press, 322 p.

Additional readings are available as pdf files on eDisk (by author name).

Readings on the syllabus should be done for the date listed on the syllabus.

Each student must purchase a field book for \$3 from the instructor.

Grading

Exams (2)	35.0%
Term paper	20.0%
field book logs (fb, 6)	17.5%
homework (hw, 8)	17.5%
reaction papers (rp, 2)	<u>10.0%</u>
TOTAL	100.0%

The reaction papers (about 2 pages each) are due on Jan. 29 and April 16.

The term paper (about 10 pages) on a topic of your choosing is due Wednesday, April 25. A title for the paper is due on Wednesday, March 7, and an outline will be due on day, April 9.

For these written assignments, unless instructed otherwise, you must turn in a hardcopy version plus submit the document via the curriculum server. The file must be renamed to Assignmentname_Yourlastname, e.g., Reaction1_Sternberg before submitting to the Submissions folder.

It is your responsibility to be able to:

- access eDisk for the course, and be able to submit to it;
- access the Blackboard system for the course;
- print documents;
- send and receive emails from your instructor.

Inability to do any of these in order to meet deadlines is not a valid excuse. You may use the ENE computer workroom for course-related work.

Grades will be regularly posted on the Blackboard system. You have one week from the return of a graded assignment to turn it in late (with possible penalty) or to rectify any errors on the grade entry.

It is also the student's responsibility to keep all graded work until the completion of the course in case there is any need to verify grade information.

I do not utilize extra credit. Extra credit is no substitute for carrying out the assigned work of the course in a timely and serious manner.

I do not give better grades if your scores improve during the semester. If I did that, I'd also have to give you worse grades if your scores decreased during the semester.

Not turning in assignments earns you a zero. This is the surest way to hurt your grade for the course.

Attendance

Lecture attendance is expected. You get one lecture (Wednesday) absence without penalty; after that, there is a 1% deduction from your final course grade for each lecture absence. In addition, if you are not present in class to do any in-class exercises, or turn in an assignment, you will receive a 0.

Field trip attendance is mandatory. Each unexcused field trip absence will result in a lowering of your grade for the course by 3%. Should you miss a field trip, you are still expected to make up the work.

An absence is only excused via an official College excuse, such as from the Dean of Students, the infirmary, or an athletic coach. If you are ill the day of class or field trip, you might get an excused absence from me, but only if you (not your roommate) visit or call me (not email) BEFORE class. Classes missed for weddings, job interviews, meetings with other professors, extended spring breaks, etc., are not generally excused absences, yet I would appreciate knowing about anticipated absences ahead of time.

Poor attendance is the second best way to ruin your course grade.

The Field Experience

Central to this course is working "in the field," outdoors. Field work can be exhilarating, but can also be challenging. If you are unable to deal with these challenges, you should consider another NTW course! We might sometimes be working in less-than-ideal conditions – light rain, cold, mud. You should be prepared with appropriate clothing: long pants, long-sleeved shirts, jackets for warmth and/or rain protection, light-weight water-proof boots, gloves and hat. Bring whatever food and drink you need for the trip. We will not always have access to restroom facilities other than "the bush." If this creates issues related to health or modesty, you should contact me or the TA.

Bibliography

Alden, P., Cassie, B., Kahl, J. D. W., Oches, E. A., Zirlin, H., and Zomlefer, W. B., 1999, *National Audubon Society Field Guide to the Mid-Atlantic States*: New York, Alfred A. Knopf, 447 p. [text, "A" in reading assignments].

- Barnes, John H., 1991, *Rocks and Minerals of Pennsylvania*: Harrisburg, Department of Conservation and Natural Resources, Educational Series 1, 30 p. [handout].
- Barnes, John, and Sevon, W.D., 1996, *The Geological Story of Pennsylvania*: Harrisburg, Department of Conservation and Natural Resources, Educational Series 4, 44 p. [handout].
- Blumberg, Betsie, and Cunningham, Robert L., 1982, *An Introduction to the Soils of Pennsylvania*: University Park, Department of Agricultural and Extension Education, The Pennsylvania State University, 24 p.
- Clark, Richard D., Ross, Robert S., and Horst, Eric J., 1994, Weather and climate of southcentral Pennsylvania; in Zegers, David A. (ed.), *At the Crossroads: A Natural History of Southcentral Pennsylvania*: Millersville, Millersville University, p. 45-58.
- DeVore, Brian A., 2002, Why do they do it?; in Jackson, Dana L., and Jackson, Laura L. (eds.), *The Farm as Natural Habitat*: Washington, Island Press, p. 107-118.
- Farber, Paul Lawrence, 2000, Victorian fascination: The golden age of natural history; ch. 7 in *Finding Order in Nature—The Naturalist Tradition from Linnaeus to E.O. Wilson*: Baltimore, John Hopkins University Press, p. 87-99.
- Gould, Stephen Jay, 1994, Cabinet museums revisited; *Natural History*, 103 (January).
- Jolly, James A., 1994, The colonists' attitudes toward the land; in Zegers, David A. (ed.), *At the Crossroads: A Natural History of Southcentral Pennsylvania*: Millersville, Millersville University, p. 103-113.
- Kraybill, Donald B., 1989, The Amish Story; ch. 1 in *The Riddle of Amish Culture*: Baltimore, Johns Hopkins University Press, p. 1-23.
- Letham, L., 1998, *GPS Made Easy*: Seattle, The Mountaineers, 208 p.
- Loper, Connie A., and Davis, Ryan C., *A Snapshot Evaluation of Stream Environmental Quality in the Little Conestoga Creek Basin, Lancaster, County, Pennsylvania*; U.S. Geological Survey Water-Resources Investigations 98-4173, 1998, 8 p.
- Nese, Jon, and Schwarz, Glenn, 2002, Basics of weather and weather forecasting; ch. 2 in *The Philadelphia Area Weather Book*: Philadelphia, Temple University Press, p. 27-52.
- Nichols, John, 2000, What is a naturalist, anyway? in *Dancing on the Stones*: Albuquerque, University of New Mexico Press, p. 167-177.
- Stranahan, Susan Q., 1993, *Susquehanna, River of Dreams*: Baltimore, Johns Hopkins University Press, 322 p. [text, "St" in reading assignments].
- Thompson, Stephen A., 1994, Water in southcentral Pennsylvania; in Zegers, David A. (ed.), *At the Crossroads: A Natural History of Southcentral Pennsylvania*: Millersville, Millersville University, p. 59-76.
- Zegers, D. A., 1994, *At the Crossroads: A Natural History of Southcentral Pennsylvania*: Millersville, Millersville University, 346 p. [book on reserve in Science library].

<u>Week</u>	<u>Date</u>	<u>Topic</u>	<u>Reading</u>	<u>Assignment</u>
1	17-Jan	Lancaster County Historical Society	St prolog; Looking to the River	hw1
2	22-Jan	Natural history	Nichols; Farber	hw2
	24-Jan	North Museum	Gould	rp1
3	29-Jan	Night sky	A 62-65	
	1/31, 7-9 pm	Grundy Observatory @ Baker Campus	A 66-67	hw3
4	5-Feb	Weather & climate	A 54-61; Clark	hw4
	7-Feb	Weather station @ Millersville	Nese	hw5
5	12-Feb	Physiography	A 12-13, 400; Map 13	hw6
	14-Feb	Maps and Surveying @ F&M	Letham 4-14,25-39,50-53,73-76	hw7
6	19-Feb	Minerals & rocks	A 20-26; Barnes #1	
	21-Feb	Geology @ Chickie's Rock	A 14-19; Barnes #4; St ch 1	fb1
7	26-Feb	Soils	Blumberg	hw8
	28-Feb	Soil & farming @ Cedar Meadow Farm	DeVore	fb2
8	5-Mar	Habitat	A 27-47	
	7-Mar	Exam 1		hw5
	12-Mar	SPRING BREAK		
	14-Mar	SPRING BREAK		
9	19-Mar	Flora	A 76-79, St 3	fb3
	21-Mar	Trees @ F&M arboretum	A 82,84,86-88,94-96,100-102, 110,132	
10	26-Mar	Fauna	A 182,235-236,257,260-261,264, 344-345; St ch 8	
	28-Mar	Birds @ Middle Creek	A 272-275, 281, 288-289	fb4
11	2-Apr	Hydrology	Thompson; St 4, 5, 9	
	4-Apr	Streams @ Boyer Preserve	A 196,201,202; Loper	fb5

12	9-Apr 11-Apr	Amish Amish lunch, Hans Herr House	Kraybill Jolly	outline due rp2
13	16-Apr 18-Apr	Agriculture Wildflowers @ Lanc. Cty Central Park	St 7 A 133-135	fb6
14	23-Apr 25-Apr	Economy and Environment makeup	A 48-53, St, 2, 6	paper due
	TBA	Exam 2		

A - Audubon Field Guide St – Stranahan
 other readings are pdf files in eDisk by author name
 hw = homework; date assigned, due following class
 rp - reaction paper
 fb - field book notes; date assigned, due that class