Lecture Topics and Assignments Schedule

NOTE: The 350 Lab Syllabus will be provided to you by your lab instructor.

Week	Topic	Reading
1 9/1-3	Water Properties and Quality, Hydrologic Cycle; Lake Origins & Morphometry	30-39, 272-277, A17, B7, B9
2 9/8-10	FIELD TRIP; Light and Energy, Vertical Structure, Mixing patterns	277-287, 264-268, 39-57, A17, B10
3 9/15-17	Lake Chemical Cycles (CO2, O2, P, N)	231-259, A17, B10, B11
4 9/22-24	FIELD TRIP; Lake Communities and Organisms: Overview & Primary Prod.	161-164, 65-78, 131-139, 209-217, A17, B8
5 9/29-10/1	Exam 1, Lake Comm & Organisms: Zooplankton & zoobenthos	85-116, A17, B8
6 10/6-8	FIELD TRIP; Zooplankton and Zoobenthos (con't)	121-124, 143-157, 165-183, A17, B8
7 10/15	Fish Ecology and Lake Management	124-131, 189-205, 217-225, A17, B8, B12
8 10/20-22	FIELD TRIP; Watershed Hydrology, Stream Flow & Physical structure	267-272
9 10/27-29	Biological Communities of Streams	109-115, 79-80, 142-148,
10 11/3-5	Exam 2, Chemistry and Communities of Streams	to be determined
11 11/10-12	Wetlands: Origins, Hydrology, and Physical Structure	to be determined
12 11/17-19	Chemistry of Wetlands	to be determined
~ 11/24	Catch-up Date	to be determined
13 12/1-3	Biological Communities of Wetlands: Primary Producers	to be determined
14 12/8-10	Biological Communities of Wetlands: Consumers	to be determined

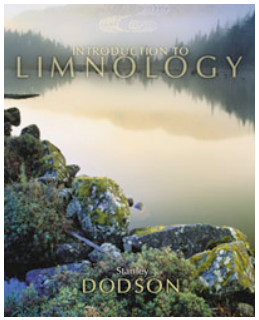
Final Exam (Exam 2 + Cumulative Final): Tuesday, December 15, 2009 at 10:30-1:15

On FIELD TRIP days (for Tues. lab), no lecture unless explicitly indicated in prior class.

GMU BIOL/EVPP 350: Freshwater Ecosystems Resources

Fall 2009

Primary Text:



Dodson, Stanley. 2005. Introduction to Limnology. McGraw-Hill. ISBN-10: 0072879351 | ISBN-13: 978-0072879353

To obtain the textbook, compare options and costs via directtextbook.com OR

Purchase directly from GMU Bookstore or amazon.com OR

Rent for the term of this course from chegg.com or bookrenter.com OR
Borrow regularly from Johnson Center Library (2 hour reserve).

Note: Access self-test quizzes via student center at http://highered.mcgraw-hill.com/sites/0072879351/student_view0/

A. EPA Watershed Academy Web – source: http://www.epa.gov/watertrain/

A1. Agents	Agents of watershed change
A2. Agriculture	
A3. Birds	
A4. Economics_of_sustatainabililty	
A5. Forestry	
A6. Growthwater	Smart growth and water supply protection
A7. IntrotoCWA	Intro to the Clean Water Act
A8. Issue2	Ecosystem services
A9. Issue3	Nonpoint nutrient pollution
A10. Issue4	Biodiversity and ecosystem functioning
A11. Issue5	Biotic invasions
A12. Issue6	Ecological principles in national forests
A13. Issue7	Nutrient pollution of coastal rivers, bays, and seas
A14. Issue10	Sustaining healthy freshwater ecosystems
A15. Issue 11	Nearshore ecosystems as nurseries
A16. Landuseb	Ecological principles for managing land use
A17.limnology	Understanding lake ecology
A18. Monitoring	Overview of watershed monitoring
A19. New_eighttools	8 watershed protection tools in developing areas

A20. New_streamcorridor	Stream corridor structure
A21. Protectinginstream	Protecting instream flows
A22. Rapbioassess	Rapid bioassessment protocols
A23. Swpbmp	Source water protection best management practice
A24. tenLessonsLearned	Top ten watershed lessons learned
A25. Watershed_Management	
A26. WatershedEcology	
A27. Watershedplanning	
A28. WetlandFunctions	
A29. Wshedecorisk	
A30. WshedModTools	

B. Water On the Web – source: http://watertheweb.org/

B1. Cycles	Diagrams of N&P cycle
B2. DW-AFDW5-2003	Method sheet for dry wt and ash free dry wt
B3. LakeDataVisLab	Lab exercise on data visualization tools
B4. Mod1-A	Freshwater and Society, Pt 1
B5. Mod1-B	Freshwater and Society, Pt 2
B6. Mod1-C	Freshwater and Society, Pt 3
B7. MOD2-3_Part1	Lake Ecology, Part 1
B8. MOD2-3_Part2	Lake Ecology, Part 2
B9. MOD2-3_Part3	Lake Ecology, Part 3
B10. MOD2-3_Part4	Lake Ecology, Part 4
B11. MOD2-3_Part5	Lake Ecology, Part 5
B12. MOD2-3_Part6	Lake Ecology, Part 6
B13. Mod7-A	Watershed Inventory and Assessment, Part 1
B14. Mod7-B	Watershed Inventory and Assessment, Part 2
B15. Mod10-11_Part1	Stream Surveys, Part 1
B16. Mod10-11_Part2	Stream Surveys, Part 2
B17. Mod10-11_Part3	Stream Surveys, Part 3
B18. Mod10-11_Part4	Stream Surveys, Part 4
B19. Mod10-11_Part5	Stream Surveys, Part 5
B20. Module_8A	Lake Surveys, Part 1
B21. Module_8B	Lake Surveys, Part 2
B22. Moldult_8C	Lake Surveys, Part 3
B23. N_P_Nomenclature	
B24. nitrogen_cycle	Nitrogen cycle diagrams
B25. nutrients	Nutrients (incomplete)

B26. StrmEclgyMod4-1 Stream Ecology, Part 1
B27. StrmEclgyMod4-2 Stream Ecology, Part 2
B28. StrmEclgyMod4-3 Stream Ecology, Part 3
B29. StrmEclgyMod4-4 Stream Ecology, Part 4
B30. StrmEclgyMod4-5 Stream Ecology, Part 5

C. World in Our Backyard NE Wetlands – source: http://www.epa.gov/ne/students/teacher/world.html

C1. wetch3 Wetland Functions
C2. wetch5 Find and adopt a wetland
C3. wetch7 Protect wetlands
C4. Wetland types of New England Wetland types
C5. WetlandScience Wetland science

D. Articles (feel free to recommend others to your professor!)

- Prophet, Carl. May 2005. Stream Ecology. *The Kansas School Naturalist* 52(1):3-15 - General article about stream ecology. Source: http://www.emporia.edu/ksn/v52n1-may2005/index.htm

E. Images (feel free to recommend others to your professor!)

- Earth_water_distribution.gif Distribution of Earth's water; http://en.wikipedia.org/wiki/File:Earth%27s_water_distribution.gif
- Water_cycle.png The Water Cycle, per USGS (What's missing?); http://en.wikipedia.org/wiki/File:Water_cycle.png

F. Videos

From Know Your Watershed - source: http://www.conservationinformation.com/?action=learningcenter_kyw_whatisawatershed :

- sources - Simulation of pollution sources; http://www.conservationinformation.com/videos/sources.wmv
- impacts - Illustrates how everyone impacts a watershed; http://www.conservationinformation.com/videos/impacts.wmv
- watisaws - What is a watershed simulation; Source: http://www.conservationinformation.com/videos/whatisaws.wmv

G. Music (optional – feel free to recommend others to your professor!)

- Water - Children's song about water needs; Source: http://www.bobreidmusic.com/abracadab_lyrics.htm#water