



LAKE STUDIES COURSE SYLLABUS & TOPICAL OUTLINE

INSTRUCTOR Thomas L. Eddy, 426 Walker Avenue, Green Lake, Wisconsin 54941; Work Phone: 920.294.0760, ext. 303; Home Telephone/FAX 920.294.6650; Internet email: teddy@glsd.k12.wi.us; Green Lake School Biology Web: <http://www.glsd.k12.wi.us/eddy/>

COURSE TITLE *Lake Studies*

PREREQUISITES *Biology I*

CREDITS ½ credit

CATALOG DESCRIPTION

Lake Studies is a semester course offered to students who want to explore lake ecology, specifically as it applies to Green Lake, Wisconsin's deepest inland gem! An interdisciplinary approach to *Lake Studies* is emphasized. Among the course objectives are to study lake natural history; the impact of humans in past and present on lakes; investigate the chemistry and biology of lakes; and to gain a deeper appreciation for our local lake resources.

COURSE OBJECTIVES

- Learn the classification of lakes and how different kinds of lakes are formed.
- Investigate the cultural history of Native Americans in the Green Lake area.
- Create prose that reflects an understanding, respect and appreciation for lake resources.
- Review the geology and natural history of Green Lake.
- Understand the main concepts of lake ecology.
- Use CBL (calculator-based laboratory) interface/sensors to collect data and measure lake water quality.
- Review the various uses of lakes and examine the impact of human activities on lake environments.
- Understand the value of undisturbed shore lands and bordering wetlands.
- Learn how to identify and manage aquatic invasive species (AIS).
- Collect, examine and classify major groups of micro- and macroscopic aquatic organisms.
- Learn to use a GPS (global positioning system) receiver to map coordinates digitally
- Become acquainted with basic GIS (geographic information system) software operations to manage digital data layers.

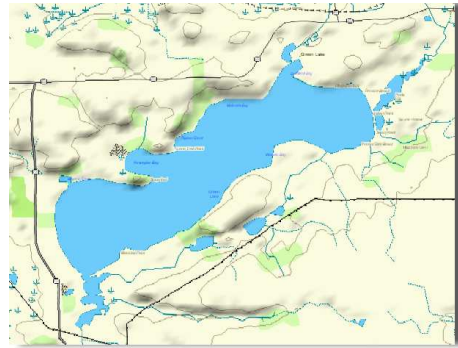


TOPICAL OUTLINE

Refer to attached **Topical Outline**

TEACHING STRATEGIES

1. Classroom lecture and discussion
2. Laboratory demonstrations and exercises
3. Cooperative groups
4. Field trips
5. Reading enrichment assignments
6. Research topic
7. Films, videos and 35 mm slides



EVALUATION METHODS/INSTRUMENTS

1. **Discussion Questions, Article Summaries, Laboratory Demonstrations and Exercises**
2. **Quizzes**
3. **Research Topic¹**
Select a research subject that is related to a topic presented in the TOPICAL OUTLINE and prepare a paper that demonstrates 1) a working knowledge of how and where to find information; 2) an analysis and synthesis of the subject; and 3) an ability to organize and present information in a systematic and coherent fashion.

The instructor will provide specific written guidelines, Office templates, and model examples to help with research projects. A minimum of five grades is earned per project: 1) rough draft, 2) final draft, 3) oral defense 4) *PowerPoint*, and 5) on-task behaviors.

COURSE GRADING POLICY

Weighted Percentage Grade System²

A student grade is earned from these categories: *homework assignments*, e.g. labs, study guides, assigned questions (25% of grade); *research topic* (25%); *quizzes/tests* (25% grade); and *final exam* (25% of grade).

Special Notice Per Late Assignments

An assignment submitted one day late results in one-third (1/3) off total points earned; two days late results in two-thirds (2/3) off total points earned; and three days late results in zero (0) points earned.

Grade Scale	
A	94% >
A-	93%
B+	91-92%
B	87-90%
B-	86%
C+	84-85%
C	79-83%
C-	78%
D+	76-77%
D	71-75%
D-	70%
F	< 69%

¹ Assigned at the instructor's discretion

² Weighted percentages may be modified during the course at the instructor's discretion

ATTENDANCE POLICY

Students are required to attend all class sessions and field trips. Students are responsible for 1) requesting makeup work upon return from absence and 2) requesting assignments and completing assignments *prior* to field trips, family vacations and other excused absences.

Prior to attending class field trips, *notify the instructor if you are allergic to insect stings!*

TEXT

Handouts and Internet websites

About The Instructor

Mr. Eddy holds a BS degree (Biology major, Chemistry minor) from the University of Northern Iowa and a MS degree (Botany) from the University of Wisconsin-Oshkosh. He is employed by the Green Lake School District (1976) and is an adjunct faculty member for Marian College (1990) where he teaches *Ecology and The Environment*, *Teaching Toward a Sustainable Future*, *Life Systems*, and *Science and Math Curriculum Methods*. Mr. Eddy is a past recipient of the National Association of Biology Teachers' *OBTA (Outstanding Biology Teacher Award)* and the Kohl Teaching Fellowship Award. In 2001, he was presented a honorary doctorate from Ripon College for his science teaching and community service. Besides his local natural history studies and involvement with natural areas preservation, Mr. Eddy has published numerous scientific papers, articles and essays.

LAKE STUDIES TOPICAL OUTLINE

1st 9 Weeks

- Introduction to lake classification—lake types
- How lakes form
- Lakes and humans—the connection
- Native American culture in the Green Lake area
- Lakes in prose
- State and local physical geography
- Geological time and formation of Green Lake
- State and local bedrock geology
- State and local glacial geology
- Biogeochemical cycles
- Wetlands—the upland-lowland connection
- Hydrosere succession

2nd 9 Weeks

- Mapping coordinates with GPS (global positioning system)
- Introduction to GIS (geographical information system)
- Impact on lakes by human activities
- Lake water chemistry
- Water pollution: biotic indexing and water-quality monitoring
- Lake aging: cultural eutrophication
- Food chains, food webs, energy pyramids
- Plankton
- Freshwater micro- and macroinvertebrates
- Bioindicators: Wisconsin frogs
- Green Lake fishes, reptiles, birds and furbearers
- Aquatic and carnivorous plants
- Overview of AIS (aquatic invasive species)
- What you can do: lake protection efforts

