

## Stream Ecosystem Monitoring Field Experience Env Sci 283x, Spring 2006

**Instructors:** Associate Professor Kevin Fermanich (instructor of record),  
Natural and Applied Sciences, UW Green Bay  
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Participating high school teachers:  
Lynn Hudock Terrien and Rick Berken Green Bay Southwest  
Charles Frisk Luxemburg Casco  
Kevin Hendricksen and Chris Hansel, Green Bay Preble  
Dana Lex, West DePere  
Kara Pezzi and Ryan Marx, Appleton East  
David Burbach, Markesan School District

### **Course description:**

Students in this course will be from high schools participating in the Lower Fox River Watershed Monitoring Program administered through the Department of Natural and Applied Sciences at UWGB. Students will normally begin participating in watershed monitoring activities prior to completion of their Junior year in high school and then complete this course for credit during the Spring semester of their Senior year. Students will perform the following stream ecosystem monitoring activities on a periodic basis: collection and analysis of physical and chemical water quality parameters; assessment of stream corridor habitat; and surveys of amphibians, macroinvertebrates and birds. In addition, students will present findings at an annual student watershed symposium, and prepare a final report.

**Number of Credits:** 1

### **Required Prerequisites:**

Students must be nominated by and work with a teacher who has completed training in the Lower Fox River Watershed Monitoring Program teacher training workshop.

### **Course objectives:**

1. provide hands-on experience in watershed science, including water quality, habitat and biotic monitoring procedures
2. enhance student knowledge and understanding of land use impacts on water quality and stream ecosystems
3. develop ability to communicate scientific results in oral and written formats

### **Course requirements:**

- Participate in monitoring technique training and a minimum of 35 field monitoring hours
- Participate in a field day with university staff
- Maintain a log of activities
- Present oral or poster presentation at annual symposium
- Prepare a report of monitoring activities and interpretation

## Course references:

- Lindbo, D. Torrey, and Stacy L. Renfro, 2003, *Riparian and Aquatic Ecosystem Monitoring: A Manual of Field and Lab Procedures*; 4<sup>th</sup> Edition, Saturday Academy's Student Watershed research Project (SWRP): Oregon, 2003.
- Project-specific hand-outs and reference materials (available at [www.uwgb.edu/watershed](http://www.uwgb.edu/watershed)).
- McCafferty, W. Patrick, 1983, *Aquatic Entomology: The Fisherman's guide and Ecologists' Illustrated Guide to Insects and Their Relatives*, Jones and Bartlett: Boston, MA.
- Peterson, Roger Tory, and Virginia Marie Peterson, 2002, *Birds of eastern and Central North America*, 5<sup>th</sup> edition, Houghton Mifflin Company, Boston.
- Various bird CDs
- Water Action Volunteers, *Key to Macroinvertebrate Life in the River*, UW-Extension and Wisconsin DNR
- EcoWatch<sup>®</sup> for Windows<sup>™</sup> software, YSI, Inc.
- Lower Fox River Watershed Monitoring Program website ([www.uwgb.edu/watershed](http://www.uwgb.edu/watershed)) and procedures

## Schedule:

Each student is expected to participate in monitoring technique training sessions conducted by participating teachers and/or UWGB staff prior to each of the various field sessions.

### Schedule of Major Activities

3 <sup>rd</sup> wk. Sept. – 3 <sup>rd</sup> wk. Oct.	Water quality monitoring
March	Annual Student Symposium at UW Green Bay
April – June	Amphibian monitoring
4 <sup>th</sup> wk April - 2 <sup>nd</sup> wk May	Water quality monitoring
June 1 - July 1	Bird Monitoring
2 <sup>nd</sup> wk July – 1 <sup>st</sup> wk Aug.	Water quality, habitat & macroinvertebrate monitoring

## Evaluation and Assessment:

Field trip participation and log	50%
Symposium presentation	20%
Report	30%