

Modular Course Schedule Summer 2008

1. **Tuesday, May 20 (9:00am – 4:00pm) -including lunch break**
John Fraser, Kalamazoo College
GPS-More than a way to find Grandma's house in Oshtemo

This course will concentrate on the use of GPS receivers as scientific instruments, with an emphasis on the quality and integrity of your digital data. Acquiring positions is just the beginning. We will also discuss the accuracy of your data and what happens to it between the time it flashes up on your GPS screen and its appearance in a scientific paper. There will be classroom discussion in the morning followed by hands-on practice in the afternoon.

2. **Wednesday, May 28 (9am - 3pm) – including lunch break**
Edwin Joseph, GVSU
Introduction to GIS

Once students obtain a general understanding of GPS, they can learn specifically how to work with the data collected on PCCI's Thales units to create maps and other displays that communicate results clearly. Participants will be introduced to the various data layers that have been collected for PCCI's property. In addition, participants will learn how to integrate GIS into their own research projects as well as get hands-on training with ArcGIS software. This workshop is intended as an extension of John Fraser's GPS course but participants are not required to attend the GPS modular course to participate in this course.

3. **Thursday, June 4 (10am – 3pm) – including lunch break**
Summer Silvieus, Aquinas College
Field Botany

Plant identification is an important skill for students studying a variety of disciplines. In this class students will be introduced to the basics of plant identification in the field and through herbarium specimen. The class will also provide an introduction to collecting and mounting herbarium specimens.

4. **Thursday, June 12 (10am – 3pm) – including lunch break**
Joe Jacquot, GVSU
Identification & natural history of PCCI mammals (& beyond)

Participants will be introduced to the natural history of local mammal fauna of Southwest Michigan. Participants will learn the use of dichotomous keys to identify local mammals to species in a hands-on exercise using museum specimens. Participants completing this module will have the ability to identify local mammals, most by sight.

5. Wednesday, June 18 (8:30am - 2:30pm) – including lunch break
David Dornbos, Calvin College
Invasive Species

Invasive species are one of the most common problems that natural area managers deal with on a regular basis. This course will explore some of the ecological reasons species can invade as well as the effects the invasive organisms have on ecosystems. We will also take a field trip to identify some of the common non-native and invasive species at Pierce Cedar Creek Institute. Participants will also have the opportunity to help out by removing spotted knapweed.

6. Thursday, June 26 (11am - 5pm) – including lunch break
Steve Kohler, WMU
Field Methods in Freshwater Ecology

Participants will be introduced to the methods used to measure key physical and chemical parameters and will learn the techniques involved with quantitatively sampling planktonic and benthic organisms in lakes, ponds, and wetlands. The classroom session will cover: simple techniques for mapping lakes and ponds, how environmental parameters vary with depth seasonally and among lake types, techniques used to measure ecosystem metabolism in aquatic ecosystems, and the instruments and chemical procedures used to conduct these tasks. During the outdoor field session, students will visit Brewster Lake to measure depth profiles of various environmental parameters, determine rates of photosynthesis and respiration, and sample and examine plankton and benthos living in the lake.

7. Tuesday, July 1 (9am - 12:00pm) – including lunch break
Stephen Burton, GVSU
Presenting Skills for Scientists

There are many skills necessary to be effective scientists. One of the most important is the ability to communicate your results to professional and non-professional audiences. This course will help you identify your audience and prepare and present information. This course will also help you prepare for your progress presentations.

8. Wednesday, July 16 (10am - 4pm) – including lunch break
Mark Cassino, Wildlife Photographer
Close Up Photography

This course will cover field techniques for successful outdoor close up photography of botanical subjects and small animals (especially insects). The class will cover technical aspects of close up photography, including equipment selection, high magnification work, and lighting of subject with both flash and natural light sources. The class will also cover the basic elements of effective composition and techniques for stalking and obtaining mobile subjects. Students are encouraged to bring either digital or film SLR cameras or advanced digital compact cameras. Students should be familiar with operating their cameras, including at a minimum manually controlling aperture / shutter settings.

Eminent Ecologist Series

The Kellogg Biological Station Eminent Ecologist Series brings several eminent ecologists to KBS each summer. Pierce Cedar Creek Institute will be organizing trips to Kellogg Biological Station to attend these lectures. All seminars begin at 7:30 pm in the Academic Building Auditorium.

Dr. Nancy Collins Johnson

Northern Arizona University

- May 19: Testing a Unified Hypothesis of Mycorrhizal Function
- May 21: There's No Place Like Home: The Co-adaptation Model of Mycorrhizal Function

Dr. Yoh Iwasa

Kyushu University

- June 16: Coupled Socio-economic and Ecological Dynamics: Examples from Lake Eutrophication and Deforestation
- June 18: The Leading Eight: Social Norms that can Maintain Cooperation by Indirect Reciprocity

Dr. Sharon Strauss

University of California–Davis

- July 28: Evolution in a Community Context
- July 30: Historical and Contemporary Approaches to Community Ecology