EEOB 5970: **Larval Fish Identification Workshop**

Instructor
John Hageman, Jr.
The Ohio State University
Email: hageman.2@osu.edu

Dr. Christopher Winslow, Instructor of Record
Interim Director, Stone Laboratory
The Ohio State University

Course Logistics

This is a one-day course held on Sunday, June 25, 2017, from 9 am – 6 pm. Participants are responsible for transportation to and from Stone Laboratory's Research Building located at Peach Point on South Bass Island, Ohio, and are expected to arrive to class via one of the two main ferry lines that have service to South Bass Island. Please note that in order to reach the Research Building and arrive by 9 a.m. for class, participants will need to take no later than the 8 am Miller Ferry (docks at southern end of South Bass). Taxi service is available to the Stone Lab facility from the ferry dock. Class ends at 6 p.m. (See web sites for ferry information.)
Miller Ferry www.millerferry.com

Costs: A nonrefundable **course fee** of $47 covers a sack lunch, coffee break, text and handouts. In addition, participants taking the course for college credit will be assessed **tuition fees**. The **workshop fee** for those taking the course for noncredit is $222 which includes the course fee of $47.

Prerequisites: Completion of 12 semester credit hours of biological sciences courses or equivalent, at least junior standing by summer of enrollment, and GPA minimum of 2.5 OR permission of instructor.

Course Format

One-half semester credit which includes lecture and lab work.

Course Description

This course/workshop will take students, agency professionals and other interested individuals through the techniques involved with the collection and identification of common larval fishes of the Lake Erie drainage basin.

Historical individuals and current literature will be covered to bring the students up to date with the state of the art. Sorting through raw samples, learning to recognize families, and keying larvae to species will be performed as lab exercises. Staining techniques for osteological examination of the specimens will also be introduced. A microscope will be provided for your use during class and a copy of the text (Auer, 1982- *Identification of the Larval Fishes of the Great Lakes Basin*) will be included with your paid course fee.

If taking the course for college credit, a pre-class assignment will be required to complete the class. Participants taking the course for college credit will be graded satisfactory/unsatisfactory and receive .05 semester hour hour. Those not taking the course for credit will receive a certificate of satisfactory completion.

Course Materials

In class students will be given text materials and handouts which are covered by a course fee paid prior to attendance.

Course Outline (Subject to change)

Sunday

8:30-9:00 Check In

Ohio State University, F.T. Stone Laboratory, Peach Point Research Lab Building on South Bass Island

9:00-10:30 I) PRE-IDENTIFICATION SKILLS

A) "Match'em Up!" Larval form to Adult Worksheet

B) Goals/Objectives/Introductions

C) Ichthyoplankton Pioneers, Past and Present

D) Sci. Literature, Guides and other Cheat Sheets

E) Terminology Used for Larval Fish I. D.
   1) Glossary
   2) Anatomy
   3) Vent Locations
   4) Pigmentation
   5) Developmental stages
   6) Meristics
   7) Osteology
   8) Chronology
   9) Etc.

10:30-12:00 II) SPECIES DESCRIPTIONS

A) Review Great Lakes Species; from Auer, 1982
B) Pass around voucher specimens

12:00-12:30 Lunch – Prepared by Stone Lab

12:30-2:00 III) LAB EXERCISE I – Sort through Raw Samples to find Ichthyoplankton

A) Basic Tools Required
   1) White/Black/Clear Pan Techniques
   2) Staining Sample Pro and CON
B) Recognizing a larval fish in the pan
   1) Tricks to pick by

2:00-4:00 IV) LAB EXERCISE II

A) Key out larval fish sample
   1) Examine voucher specimens
   2) Determine family
   3) Eliminate the obvious species
   4) Key out the unknown specimens

4:00-6:00 Wrap up/ Test

Major Assignments
Pre-Class Assignment (Not required for those taking this course as a **non-credit** workshop)*:* Conduct a literature search to locate 3 articles published since 1982 in any scientific journal describing larval fish identification techniques of species found in the Great Lakes drainage. Send via email to John Hageman by **June 16, 2017,** to receive credit for this assignment.

Grading Information
Students taking the course for college credit must earn 18 points to receive a grade of "Satisfactory" from their performance on the following activities:

- Pre-Class Assignment..... 3
- Participation- Lecture 3
- Participation- Picking Raw Samples..... 3
- Participation- Reviewing Voucher Specimens 3
- Final Exam..... 18

TOTAL NUMBER OF POSSIBLE POINTS 30

Participants taking the course as a noncredit workshop will receive a certificate indicating their satisfactory performance if they earn 14 points from the following activities:

- Participation- Lecture 3
- Participation- Picking Raw Samples..... 3
- Participation- Reviewing Voucher Specimens 3
- Final Exam..... 18

TOTAL NUMBER OF POSSIBLE POINTS 27

Grading Scale
This course is graded "Satisfactory" or "Unsatisfactory"

Attendance Policy
Students are expected to participate in all class activities.

Academic Misconduct
It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed: illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct http://studentlife.osu.edu/csc/.

Disability Services
Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 614-292-3307, TDD 614-292-0901; http://www.wds.ohio-state.edu/.