

NRES 285 – Fisheries Techniques

- August 2011
- Hours: 1 ug/g
- Room: N-107 Turner Hall
- Lecture: Wed. 2:00-4:00 PM
- Class Website: Managed through Compass

Instructor Information

- Instructor: Dr. Cory Suski, Assistant Professor, NRES
- Office: W401C Turner Hall
- Phone: 217-244-2237
- Email: suski@illinois.edu
- Office Hours: Wednesday 10-10:50 am, or by appointment.
- Preferred Method of Contact: Email

Objectives

The objective of this 8-week course is to provide students with hands-on experience and training in standard methods and techniques used by fisheries scientists. This objective will be accomplished through a combination of field- and laboratory-based learning modules where students will learn collection techniques, data analysis methods and report writing. Students will be required to take one (1) off-site field trip during to a fisheries field station during this course, and this trip is currently scheduled for **Saturday September 24, 2011**. The cost of the field trip will be \$25 per student, and this fee is needed to offset van rental for the course.

At the completion of this course, students will be capable of:

- Designing a scientifically-sound survey to assess the health, abundance, and richness of fish populations in stream, river and lake environments
- Using standard techniques to quantify fish community structure in lakes, rivers and ponds
- Performing standard habitat assessments to quantify biotic and abiotic characteristics of lakes and rivers
- Performing field analyses & identification of invertebrate populations
- Interpreting of fisheries data to make assessments of fish populations and habitat parameters
- Relating biological and physical characteristics of aquatic environment with richness and diversity of fish populations
- Communicating the results of field analyses in both written and oral form.

Textbook

Murphy, B. R. and D. W. Willis. 1996. Fisheries techniques, 2nd edition. American Fisheries Society, Bethesda, MD. ISBN 1-888569-00-X. (On reserve in ACES Library <https://i-share.carli.illinois.edu/uiu/cgi-bin/Pwebrecon.cgi?DB=local&v1=1&BBRecID=6013935>)

Recommended

Bonar, S. A., W. A. Hubert and D. W. Willis. 2009. Standard methods for sampling North American freshwater fishes. American Fisheries Society, Bethesda, MD. ISBN 978-1-934874-10-3. Supplemental text – on reserve in ACES library (<https://i-share.carli.illinois.edu/uiu/cgi-bin/Pwebrecon.cgi?DB=local&v1=1&BBRecID=6013935>).

Recommended Gear

During this course students will experience conditions expected of real-world field work, including but not limited to: rain, sun, mosquitoes, and potential to get wet and/or muddy while working in streams. Students should dress appropriately for such conditions. It is recommended that students have the following:

- Closed-toe sandals or water shoes (e.g., Keens), or old gym shoes that can be worn while working in a stream
- Field clothes that are liable to get wet and muddy (i.e., old shirt, old shorts)
- Socks, preferably calf-height, for wearing with chest waders
- Bottled drinking water
- Sunscreen
- Rain suit (umbrellas not recommended)

A limited number of chest waders will be provided, but students may find it necessary to enter the water without waders. Feel free to bring your own waders if you have them.

Expectations of Students

During this course, it is expected that students will come to class on time, having completed assigned readings and quizzes in advance, and be prepared to engage in course content for the full class time. Students are expected to participate in class activities in ways that support course learning objectives, demonstrate respect and civility toward all other students and instructors, and take an active role in obtaining information and resources for completion of tasks and assignments in the course, ultimately promoting their own learning. Wherever possible, students should contribute feedback to support the instructor in achieving course goals and inform the instructor if they are having a problem understanding presented material. Students are also expected to complete assigned tasks by the announced deadlines and adhere to the content of this syllabus.

Students' Expectations of Instructor

During this course, the instructor is expected to begin and end class on time, make the best possible use of class time to support student learning, answer questions promptly and sufficiently, and be available to provide additional assistance when needed. The instructor will always provide clear and consistent criteria that can be used fairly in evaluating student learning, will welcome input on ways to improve the course and will support the achievement of course learning objectives. Feedback (in the form of grading of papers and exams) should be provided to students in a prompt, timely fashion and lecture notes will be made available on the class website prior to class.

Teaching and Learning Strategies

Learning of concepts and techniques in this course will occur through five different means:

- *Quizzes*: Prior to each weekly class, students will be required to complete brief quizzes (likely on-line through Compass) based on assigned textbook readings. The purpose of these

quizzes is to ensure that students have completed readings prior to class & are familiar with content. Readings will provide foundation and background to assist with the applied, hands-on component of the class.

- *Lectures:* Prior to the beginning of class, there will be a brief lecture by the instructor. This lecture will be required to orient students to content for the class, outline any safety or logistical constraints, and to reinforce theory in readings. These lectures will be brief (likely only about 30 minutes).
- *Written assignments:* At the conclusion of the course, students will be required to complete a management plan outlining the assessment of a fish community. The purpose of this assignments is to incorporate a broad range of concepts and ideas (fish biology, environmental constraints, activities of humans etc.) and to address a current topic in fisheries science.

Tentative Schedule

Note that this schedule may need to be adjusted slightly to accommodate weather. The sampling field trip on September 24 is fixed, however, and this date cannot change.

| Week | Date | Lecture Topic & Activity |
|------|--------------|---|
| 1 | August 24 | Introductory class |
| 2 | August 31 | Planning for field work (Sampling design, protocols, safety etc.) |
| 3 | September 7 | No Class |
| 4 | September 14 | Fish collection & ID in rivers/streams |
| 5 | September 24 | Lake sampling field trip (large river sampling) |
| 6 | September 28 | Aquatic habitat & invertebrates, water quality |
| 7 | October 5 | Telemetry & GPS |
| 8 | October 12 | Pond draining |

Evaluation Methods & Weighting

| Component | Proportion of Final Grade |
|---------------------------------|---------------------------|
| Quizzes | 30 % |
| Participation & professionalism | 20 % |
| Final report | 50 % |
| Total | 100 % |

Quizzes

Quizzes will be brief, based on readings, and meant to reinforce the important concepts of different sections of the class (likely online through Compass).

Hands-on completion of field activities

Throughout the course, students must demonstrate proficiency and a capability of independently performing the various techniques and skills demonstrated.

Professionalism

Attendance, courtesy, respect, collaboration with classmates, willingness to become involved in activities, and participation will all be considered when developing a grade for Professionalism.

Final Report

For the final report, students must design a comprehensive sampling protocol for a hypothetical fisheries situation. The sampling protocol must incorporate quantification of both biotic and abiotic parameters and must involve the different skills, techniques and procedures presented throughout the class.

Course Policies

- Student grades will be based on the above course components ONLY. Extra-curricular activities (work, sports, applying for jobs), special requirements (you have to get an A to graduate, need a certain grade to maintain a scholarship, need to maintain certain GPA to graduate, etc.) or requirements of future career plans (graduate or professional schools) will not influence ANY grade in this course.
- Your grade will be based, without exception, on the following scale:

| | |
|-----|-------------|
| A + | 97 to 100% |
| A | 93 to 96.9% |
| A - | 90 to 92.9% |
| B + | 87 to 89.9% |
| B | 83 to 86.9% |
| B - | 80 to 82.9% |
| C + | 77 to 79.9% |
| C | 73 to 76.9% |
| C - | 70 to 72.9% |
| D + | 67 to 69.9% |
| D | 63 to 66.9% |
| D - | 60 to 62.9% |
| F | < 59.9% |

- Attending class is expected. Students should make all possible efforts to attend classes.
- It is the responsibility of the student to ensure that assignments are handed in to the instructor at or before the due dates listed above. Assignments received after the due date will be considered late unless they are accompanied by a valid, documented, university-approved excuse and a note from the Emergency Dean ((valuable resources are http://admin.illinois.edu/policy/code/article1_part5_1-501.html, The Emergency Dean (<http://www.odos.uiuc.edu/emergency/>) and Dean of Students (<http://www.odos.uiuc.edu/>)).

Excuses that are within the student's control (ran out of toner in printer, hard drive crashed and lost file(s), computer was stolen, couldn't find parking, semester has been busy, several other things due at the same time, memory stick/thumb drive/flash drive broke) will not be accepted and it is the student's responsibility to avoid these potential issues. Students are **strongly** encouraged to take advantage of storage space provided by the University through NetFiles (<http://www.cites.illinois.edu/netfiles/quickstart.html>). **Late assignments will be charged a penalty of 15 % per day.**

- Please show up on time for class. Late arrivals can be disruptive to ongoing lectures and may result in students missing out on field trips as the bus may leave without them.
- You are encouraged to ask questions at any time during class, and feel free to contact me by email outside of class with your questions

University Policy on Academic Integrity

The University of Illinois has formulated a policy that defines academic dishonesty, explains penalties that may be imposed on students, and details hearing procedures for appeals. Academic dishonesty includes (but is not limited to) the following behaviors: cheating; fabrication; facilitating infractions of academic integrity; plagiarism; bribes, favors, and threats; academic interference; unauthorized use of University resources; failure to comply with research regulations; and computer-related infractions. All students should refrain from conduct that is academically dishonest or behavior that assists others in academically dishonest activities. Academic Integrity is thoroughly discussed in the Article 1, Part 4 of the Student Code, and all students are encouraged to become familiar with this section of the Code (<http://www.admin.uiuc.edu/policy/code/index.html>).

Disabilities

Effort will be made to accommodate students with disabilities. All requests for reasonable accommodations should be directed to the DRES Student Services Office (333-4603; disability@uiuc.edu; <http://www.disability.uiuc.edu/>).