COURSE SYLLABUS - Wright

Course Number: FISH 5510/6510

Course Title: Fisheries Biology & Management

Credits

4 (3 lec., 4 lab contact hours per week)

Prerequisites: General Biology

I. Course Content/Objectives:

1. Objectives: To provide a general overview and introduction to fisheries management with particular emphasis on freshwater examples, for juniors, seniors, and entering graduate students. Students will leave the course having been introduced to the basic tools used by and the complex issues faced by fisheries managers. The laboratory will provide hands-on field experience sampling and processing fish and will augment material presented in lecture.

Graduate students will be expected to more thoroughly put fisheries management in context of basic fish ecology and conservation.

2. Tentative Schedule and Outline of the Course

Week:

Aug 19, 21 Introduction- What is fisheries management and why is it important? Historical perspective

Aug. 26, 28 Basic statistics

Sep 2, 4, 11 Fishes of the Southeast- Brief description of the important families and their life-history characteristics

16-25 Population Dynamics- Stock Assessment
- Sampling limitations
- Mark-recapture

30, Oct 2 Population Dynamics- Age & Growth
Oct 7, 9
Population Dynamics- Calculating vital rates
- VPA & CAEGAN
- Bioenergetics

7,9
Modeling Populations - Stock-recruitment
- MEI
- Stage-based
- IBM

(Midterm EXAM)

14,16
Fish & Fisheries in an Ecosystem Context
- Dynamic system models

21,23
Empirical Approaches - Observation to Experimentation
- Adaptive Management

28, 30
Managing fisheries - Length and creel limits

Nov 4, 6
Management Tools- Habitat modification

11,13
Management Tools- Stocking

18,20
Conflicts in Modern Fisheries

Dec 2,4
The Future of Fisheries Management/ Fisheries as a Profession

Final Exam : TBA


Extra reading assignments will be given from the primary literature. Typical journals include

Ecological Applications
Transactions of the American Fisheries Society
North American Journal of Fisheries Management

II. Grading and Evaluation.

1. Students are expected to attend all labs. Exams can be rescheduled only with the permission of the instructor.
2. Grading:

A short quiz will may be given at the beginning of class each Thursday. The lowest score of those quizzes will be dropped from the final average. Quizzes missed for approved absences will be dropped from the average.

**Undergraduate**

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<td>Lecture</td>
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<tr>
<td>3-10 quizzes</td>
<td>20%</td>
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<tr>
<td>1 mid term</td>
<td>17.5%</td>
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<tr>
<td>1 comprehensive final</td>
<td>17.5% (final exam date December 15, 2 - 4:30 pm)</td>
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<tr>
<td>2 writing assignments</td>
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<td>Lab</td>
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<td>attendance/participation</td>
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<td>3 assignments</td>
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**Graduate**

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<td>3-10 quizzes</td>
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Writing assignments by the graduate students will be evaluated separately from the undergraduates. Graduate students will be expected to include 20-30% more references from the primary literature than the undergraduates demonstrating a greater synthesis among primary sources.
3. Grading Scale

90-100 = A
80-89  = B
70-79  = C
60-69  = D
<60   = F

Writing assignments are due by 5 pm of the announced due date. Papers turned in after the due date will have 5 pts deducted for each day late. Also all assignments and exams, unless specifically designated as group efforts, are to be the individual work of the student. Please read and follow the Academic Honesty Policy found in the Student Handbook.

Note: Students with special needs because of handicap or other reasons should make their needs known to the instructor in the first week of class. Please refer to the Accommodation Policy for Students with Disabilities in the Student Handbook.
Lab Schedule

1. Tour of the pond facility and introduction to fish sampling.
2. Statistics in fisheries
4. End mark-recapture.
5. Stream sampling
6. Otolith analysis
7. Age and growth analysis
8. Diets
9. Data review and analysis
10. Bioenergetics
11. Bioenergetics
12. Tragedy of the Commons exercise
13. Rivers and Reservoirs: Specialized management needs and techniques
14. Presentations of case histories of conflicts & resolutions