**Syllabus**
**Techniques of Natural Resource Management – WLSC 355**
**3 credits; M,W 11:30-12:20; Knox 142**
**Spring 2008**

| | | |
|---|---|---|
| Instructor | Wiebke (Veebka) Boeing | Gary Roemer |
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| Office hours | M, W 12:30-1:30 pm or by appointment | M 2:00 – 4:00 or by appointment |

**Course Objective**
To provide a broad overview of basic skills and techniques that are commonly used by biologists in performing management, research, and reporting functions in natural resource fields with an emphasis on fishery and wildlife techniques and data processing.

**Textbook**
Sutherland, W.J. (ed.) 2006. Ecological Census Techniques. 2nd Ed., Cambridge University Press, 432 pp.

**Policy**
We expect you to read the assigned sections of the textbook before coming to class and actively participate in this class. It is your responsibility to obtain the material from lectures that you may miss. You can only make up a missed exam or hand in the assignment late under exceptional circumstances (e.g., medical emergency) and you will have to provide written proof (e.g., doctor's note). You will have to inform us about the circumstances as soon as possible.

Plagiarism and cheating will be penalized according to the Student Code of Conduct.

**Assignments and Grading**
200 points for exam 1 and exam 2
150 point for final (1/3 cumulative)
150 points for laboratory
50 points for homework

Grade
A 90-100% (495-550 points)
B 80-89.9% (440-494 points)
C 70-79.9% (385-439 points)
D 60-69.9% (330-384 points)
F <60% (0-329 points

**Laboratory Requirements**
In order to learn how to do small mammal trapping you will be required to set and check traps over two weekends (see schedule).

**Students with Disabilities**
If you have (or believe you have) a disability and would benefit from classroom accommodation(s), please contact the Services for Students with Disabilities (SSD) Office located at Corbett Center, Room 244 [Phone: 646-6840: TTY: 646-1918]

**Important Dates**

| | | |
|---|---|---|
| Deadline for filing degree application (students meeting requirements at end of spring) | Wednesday | January 16 |
| Deadline for registration/course addition | Monday | January 28 |
| Last day to drop with a "W" | Monday | March 10 |
| Last day to withdraw from the university | Friday | April 18 |
| EXAM WEEK | Monday-Friday | May 5-9 |

**Tentative Schedule – M & W 11:30-12:20**

| Date | Topic | Read (pg) | Lec |
|---|---|---|---|
| Jan 16 | Introduction; Scientific method; Experimental design | 1-10; 408 | WB |
| Jan 21 | **Martin Luther King Holiday** | | |
| Jan 23 | Statistical methods | | WB |
| Jan 28 | Statistical methods | | WB |
| Jan 30 | Monitoring population changes; Habitat requirements | 13-83 | WB |
| Feb 4 | Population sampling - terrestrial vertebrates I | 141-177 | GR |
| Feb 6 | Population sampling – terrestrial vertebrates II | 297-366 | GR |
| Feb 11 | Telemetry – Remote sensing of wildlife | Kenward 2001 | GR |
| Feb 13 | Analysis of spatial patterns - The use of home range estimators | Kernohan et al. 2001 | GR |
| Feb 18 | Analysis of patterns of habitat use | LaHaye et al. 1997 | GR |
| Feb 20 | **Exam 1** | | |
| Feb 25 | Calculations to estimate population size (mark-recap) | 94-136 | WB |
| Feb 27 | Calculations to estimate population size (removal) | | WB |
| Mar 3 | Calculations to estimate population size | | WB |
| Mar 5 | Environmental variables | 370-396 | WB |
| Mar 10 | Vegetation sampling | 186-199 | WB |
| Mar 12 | Landscape Ecology – Use of GIS | TBA | KB |
| Mar 17 | Wildlife Energetics | McNab 2002 | GR |
| Mar 19 | **Exam 2** | | |
| Mar 24 | **Spring Break** | | |
| Mar 26 | **Spring Break** | | |
| Mar 31 | Body Condition Indices | Lefebvre et al. 1999 | GR |
| Apr 2 | Sampling techniques for aquatic organisms I | 207-209; 240-246; 250-275 | WB |
| Apr 7 | Sampling techniques for aquatic organisms II | | WB |
| Apr 9 | Management of Populations | | WB |
| Apr 14 | Food habits Analyses | See HO | GR |
| Apr 16 | Introduction to Isotopic Ecology | Kelly 2000 | GR |
| Apr 21 | Estimating Diet with Stable isotopes | Phillips 2001 | GR |
| Apr 23 | Estimating Migration Patterns with Stable isotopes | Bearhop and Bowen et al. 2005 | GR |
| Apr 28 | Genetics - A brief introduction | TBA | GR |
| Apr 30 | Review | | |
| May 9 | **Final Exam (10:30 AM – 12:30 PM)** | | |

**Lab – Wednesday (2 sections: M1A – 1:30-3:20, M1B – 3:30-5:20)**

| **Date** | **Topic** |
|---|---|
| Jan 16 | Introduction |
| Jan 23 | The origin of a question – Field work |
| Jan 30 | Transect set-up and distance sampling – Field work |
| Feb 6 | Transect set-up and distance sampling – Field work |
| Feb 13 | Report guidelines – Knox |
| Feb 16/17 | Small mammal trapping – Weekend field work |
| **Feb 20** | **No lab** |
| Feb 23/24 | Small mammal trapping – Weekend field work |
| Feb 27 | Aquatic sampling – Field work |
| Mar 5 | Aquatic sampling – Field work |
| Mar 12 | Aquatic sample processing – Knox |
| Mar 19 | Aquatic sample processing – Knox |
| **Mar 26** | **Spring Break** |
| Apr 2 | Vegetation – Field work |
| **Apr 9** | **No lab** |
| Apr 16 | Vegetation – Field work |
| Apr 23 | Open lab for questions regarding lab reports – Knox |
| Apr 30 | Reports Due (1 terrestrial and 1 aquatic) – Knox |