WFS 560 - Advanced Topics in Wildlife Physiology
(Section Number 87498)
2 hrs.

Spring Semester 2003

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Course Description:
This course is an introduction and overview of the endocrine and physiological mechanisms important behind the regulation of wild animal populations (primarily wild birds and mammals). You will gain an understanding of the importance of wildlife physiology for monitoring and managing wildlife. The emphasis is on the application of wildlife physiology to practical wildlife management.

Lecture Times: Wednesdays 6:30-8:30 pm

Course Texts: Readings will be distributed in class or placed on reserve.

Grading:

1st Lecture Exam – ***26 February***	100 points
2nd Lecture Exam – ***9 April***	100 points
Proposal and presentation – ***16, 23, 30 April***	100 points
Total	300 points (100%)

Exams will be all essay questions.

Grading:

A	270-300 points	90 -100%
B+	255-267 points	85 - 89%
B	240-252 points	80 - 84%
C+	225-237 points	75 - 79%
C	210-222 points	70 - 74%
D	180-207 points	60 - 69%
F	0-177 points	0 - 59%

Proposal and Presentation:

A research proposal is required. I want you to propose some aspect of wildlife physiology to your current graduate research. You will include:

- Despcriptive Title
- Abstract/Summary
- Background/Introduction
- Rationale and Significance of proposed work
- Objectives
- Experimental Plan/Methods
- Schedule for Proposed Work
- Literature Cited

It should be typewritten and double-spaced. Format for literature cited must follow Journal of Wildlife Management (JWM) or other appropriate wildlife journal format.

At the end of the semester, you will give a 15-minute presentation to the class.

Lecture Outline:

I. Course Introduction – Why the study of physiology/endocrinology/nutrition is important in our understanding of the ecology and management of wildlife species.

II. Overview of Physiology/Endocrine Systems

- A. Overview of Endocrine Systems
- B. Pituitary Hormones and Their Control by the Hypothalamus
- C. Seasonal Rhythms in Wild Populations
- D. Stress Response
- E. Reproduction
- F. Hormonal Control of Feed Intake, Body Weight, and Metabolism
- G. Special Topics
  1. Antler Growth
  2. Migration
  3. Seasonal Pelage and Feather Changes
  4. Hibernation

III. Nutrition

IV. Physiology of Chemical Immobilization

V. Immune Function and Disease Resistance

Supplemental Texts:

Guyton, A. C., J. E. Hall. 2000. Textbook of medical physiology. Tenth edition. W. B. Saunders Co., Philadelphia, Pennsylvania, USA.

Harder, J. D., and R. L. Kirkpatrick. 1994. Physiological methods in wildlife research. Pages 275-306 *in* T. A. Bookhout, editor. Research and management techniques for wildlife and habitats. The Wildlife Society, Bethesda, Maryland, USA.

Haufler, J. B., and F. A. Servello. 1994. Techniques for wildlife nutritional analyses. Pages 307-323 *in* T. A. Bookhout, editor. Research and management techniques for wildlife and habitats. The Wildlife Society, Bethesda, Maryland, USA.

Kreeger, T. J. 1999. Handbook of chemical immobilization. Wildlife Pharmaceuticals, Inc., Fort Collins, Colorado, USA.

Nelson, R. J. 2000. An introduction to behavioral endocrinology. Second edition. Sinauer Associates, Inc., Sunderland, Massachusetts, USA.

Nielsen, L. 1999. Chemical immobilization of wild and exotic animals. Iowa State Press, Ames, Iowa, USA.

Robbins, C. T. 1993. Wildlife Feeding and Nutrition. Second edition. Academic Press, San Diego, California, USA.

Schmidt-Nielsen, K. 1997. Animal physiology adaptation and environment. Fifth edition. Cambridge University Press, Cambridge, United Kingdom.