Appendix 2: Sample Official Course Syllabus. Final Report: Academic Policies Subcommittee on Syllabi and Course Handouts, 4 September 2001 (revised 19 October 2002, 22 November 2002, 27 January 2003). Available from:

MISSOURI SOUTHERN STATE COLLEGE
COURSE SYLLABUS

SCHOOL: Arts and Sciences

DEPARTMENT: Biology

COURSE TITLE: Comparative Vertebrate Anatomy

COURSE CIP NO: 26.0704-331

CREDIT: 5 cr. hrs.

Include date and revision dates

PREPARED BY: Mary M. Moss

DATE APPROVED BY DEPARTMENT: 20 July 1987; last revision 20 February 2001

SIGNATURE: _____

John M. Doe , Head of Biology

COURSE DESCRIPTION FOR CATALOG

BIO 331 (Fall) 5 hrs. cr.
Comparative Vertebrate Anatomy

Comparative Vertebrate Anatomy is a fundamental course that designed to enhance your understanding and appreciation of the structure and adaptations of vertebrates. Emphasis is on evolution and the relationship between structure and function, including biomechanics and scaling. Two lectures and two, three-hour labs per week. Prerequisites: BIO 101, General Biology and BIO 122, Zoological Survey.

If no course objectives relate to the Core goals and competencies, place this statement at the end of the objectives: "This course does not substantially address the goals and competencies of the Core."

OBJECTIVES

Numbers in brackets reference Core Goals and Competencies.

1. Compare and contrast the anatomy of representative vertebrates [8A].

2. Develop an understanding of the relationship between structure and function [8A]

3. Develop observational skills and the ability to formulate testable hypotheses concerning anatomical relationships [8A, 2A].

4. Use correct anatomical terminology in written and spoken communication [1C, 1F].

5. Explain the basic mathematical and physical principles that affect size, strength, and biomechanics [7B, 7E].

COURSE OUTLINE

Lecture:

1. Basic Characteristics of Chordates and Vertebrates
    - The philosophy and significance of Comparative Anatomy
    - How and why questions in biology
    - Volume-Surface Ratios and Ecogeographic Rules
    - Allometry, Scaling and Sexual Dimorphism
2. A taxonomic and phylogenetic survey of the vertebrates
    - Origin of the Chordates
    - Principles of systematics
    - Jawless and jawed fish
    - Amphibians and reptiles
    - Birds and mammals
3. Comparative Embryology
4. Comparative Analysis of the Organ Systems
    - The Integument
    - An overview of the skeleton
    - Vertebrae and skull
    - The appendicular skeleton
    - Muscles
    - Digestive system
    - Gas exchange
    - Heart and circulation
    - Urogenital system
    - Nervous system and sense organs and endocrine glands

Laboratory:

1. Laboratory techniques and dissection skills
2. A survey of representative chordates
3. Protochordates -- possible ancestral types
4. Dissection of the lamprey -- a primitive chordate
5. Dissection of the shark -- a generalized vertebrate
6. Dissection of the perch -- a bony fish
7. Dissection of the mudpuppy -- a representative amphibian
8. Dissection of the turtle -- a primitive reptile
9. Dissection of the cat -- an advanced mammal

TEXT AND LABORATORY MANUALS

Rental:

Kent, G. C. and R. S. Carr. 2001. Comparative anatomy of the vertebrates. Ninth edition. McGraw-Hill, Boston, MA. 524pp. [ISBN 0-07-303869-5]

Purchase:

Wischnitzer, S. 1997. Atlas and dissection guide for comparative anatomy. W. H. Freeman Co., San Francisco, CA. 284pp. [ISBN 167-2374-3]

REFERENCES AVAILABLE IN THE LIBRARY

References appropriate for student use.

Journals:

Indicate status and type of journal subscription.

American Zoologist [Print: 1996-2001]
Canadian Journal of Zoology [Print: 1985-2001]
Science [Currently received]
Systematic Zoology [Print: 1952-1991]
Zoological Science [Digital through Ebsco Host; full text 01 Jan 2000-present]

Books:

Andrews, S. M., R. S. Miles, and A. D. Walker. 1977. Problems in vertebrate evolution. Linnean Society Symposium Series No. 4. Academic Press, NewYork, NY. 411pp. [QL607.5 .P75]

Citation styles vary among disciplines. (In biology, titles are usually not italicized.) Give library call number.

Books (Continued)

Schmidt-Nielsen, K. 1984. Scaling. Why is animal size so important? Cambridge University Press, New York, NY. 241pp. [QL799 .S34 1984]

The procedures evaluation sections should accommodate instructor variation.

PROCEDURES

Students are introduced to concepts in lecture and discussion. Lecture generally follows the organization of the text and utilizes overhead transparencies, and other audio-visual aids. The laboratory is a significant portion of the course and involves detailed dissections of selected chordates. These dissections are integrated with the lecture material. The laboratory sharpens observational skills and builds a spirit of cooperation among the students. Students contribute to the class with demonstrations or presentations relating to dissection techniques or comparative morphology.

EVALUATION

Evaluation is based primarily on lecture and laboratory examinations. Lecture examinations require explanation and synthesis. Laboratory examinations are practical, and students identify structures and explain similarities and differences in other groups. Students may also earn points from special assignments and graded dissections. Grades are assigned using the standard 90, 80, 70, and 60 percentage scale.

AMERICANS WITH DISABILITIES (ADA) STATEMENT

If you are an individual with a disability and require an accommodation for this class, please notify the instructor or Melissa Locher, Disabilities Coordinator, at the Learning Center (417.659.3725).