Instructor: F. L. Rose

Room: Supple 257

TEXT: An Introduction to Biological Evolution
Kenneth Kardong
McGraw Hill

Grading: There will be four formal quizzes. The average of all assigned work will form the basis for your numerical score. Excessive absences as determined by the instructor will be used to develop the final grade. Disruption of lecture (e.g., talking) will result in a 5 point reduction in your highest quiz grade for each infraction. Numerical grades might be modified according to absences (see below).

THERE ARE NO MAKE UP EXAMS.

Attendance: Failure to attend class is considered a serious offense. Individuals accumulating three absences will be assigned one letter grade below that obtained for all class work and individuals with four absences will receive an automatic “F” grade for the course. Please read the catalogue regarding the assigning of grades of “W” and “I.” Drop grades are based on exam scores and the factors listed above at the time a person drops the course. THIS IS IMPORTANT, because if you drop the course failing, you will be charged out-of-state tuition to retake the course.

Office Hours: 9:30 – 10:30 M, TU. Th. Anytime by appointment.

Odd Ends: Scores assigned on quizzes can be corrected only within two class days of when the quiz was returned. NO RECORDING DEVICES ARE ALLOWED IN LECTURE. The instructor reserves the option of offering a quiz at any time he feels appropriate, for any reason. The instructor will determine how these ancillary tests are to be factored into the final grade.
SEATING will be allowed only in certain areas of the lecture room.

The class starts at 8:00 a.m. This is the difference between what is right and what is real.
Course
Number: 4301
Course Name: Evolution
Semesters Offered: Fall/Spring

Prerequisites: Biol. 2450 (Genetics) with a grade of C or better.

Course description: A course to integrate the basic concepts of evolution using a framework of biological information related to genetics, ecology, and current biological topics.

Course Objectives: 1. To acquaint students with an historical perspective of the development of evolutionary thought.
2. To acquaint students with the mechanisms of species mutability and anagenesis (changes through time).
3. To integrate the mechanisms of species mutability with the process of speciation.
4. To acquaint students with the major adaptive changes leading to the establishment of phyla, and integrate the basic changes in the adaptive scenarios leading to the evolution of vertebrates.
5. To develop and integrate an understanding of Man’s place in the evolutionary scheme.

Text: Kardong - Biological Evolution

Lecture Outline: attached.

OUTCOMES: After completion of Biology 4301, a student should be able to demonstrate an understanding of basic principles of evolution, have a conversational knowledge of those principles, understand the historical and current genetic and environmental factors shaping evolutionary outcomes, and make wise decisions regarding the educational systems and the teaching of evolutionary concepts. In addition, students should have a firm understanding of how evolution is interrelated to all living things and how evolution concepts play a role in the understanding and treatment of genetic and microorganismal diseases. Students, thus, should be better able to make informed decisions as a member of society.
EVOLUTION OUTLINE FOR SPRING 2008

Jan. 14    Introduction (class rules)
Jan. 16
Jan. 21    Holiday
Jan. 23
Jan. 28
Jan. 30
Feb. 4     QUIZ # 1
Feb. 6
Feb. 11
Feb. 13
Feb. 18
Feb. 20
Feb. 25
Feb. 27    QUIZ # 2
Mar. 3
Mar. 5
Mar. 10 – 12 SPRING BREAK
Mar. 17
Mar. 19
Mar. 24    Lions and Hyenas (disk) deals with intra and interspecific competition
Mar. 26
Apr. 2
Apr. 7
Apr. 9     QUIZ # 3
Apr. 14
Apr. 16
Apr. 21
Apr. 23
Apr. 28
May 05     8:30 a.m. - QUIZ # 4, Exam day. In the event that time permits, the 4th quiz will be given on 28 April.
HISTORICAL PROGRESSION

- Robert Hooke - 1665 - term cell
- Leeuwenhoek - first real use of microscope
- Schleiden and Schwann - cell theory
- Rudolph Virchow - cells from preexisting cells
- Walter Flemming - Chromatin
- Wilhelm Roux - chromosomes contained hereditary material
- August Weisman - Continuity of germ plasm
- Gregor Mendel - Particulate inheritance
- Edward Drinker Cope - Lamarkian
- Hugo DeVries, Correns, and Von Tschermak
- Thomas Hunt Morgan - X-rays and chromosome breakage
- Avery, McCloud and McCarty - DNA genetic material
- Watson, Crick, Wilkens - structure of DNA