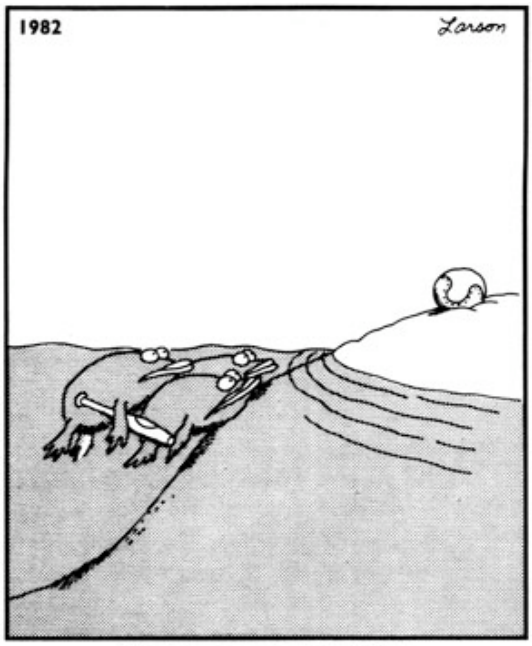
EEB 2245/2245W
Evolutionary Biology
Spring 2011



Great moments in evolution

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Meetings: Tuesday, Thursday 9:30-10:45 in BPB130
Textbook: Futuyma, D. 2009. *Evolution*, 2nd edition. Sinauer (can be purchased at discount as an e-book or in loose leaf sections).
Website: hydrodictyon.eeb.uconn.edu/eebedia/index.php/Evolutionary_Biology_Spring_2011
Or Google UCONN EEBEDIA and look under Courses/Lecture Format

EEB 2245 Grading: Quiz 1 (50 pts); Quiz 2 (50 pts); Exam 1 (100 pts); Exam 2 (100); Final Exam (100 pts). The second exam will be given on the same day as the comprehensive final.

EEB 2245W Grading: Your grade in the lecture portion of the course will be calculated as above. This grade will constitute 75% of your final course grade. Your grade in the **W part** of the course, as determined by your W instructor, will constitute the remaining 25% of your final course grade, except that **an F in the W part of the course will result in an F for the entire course. An F in the lecture part of the course will also result in an F for the entire course.**

Missed exams: Any student who misses a quiz or exam without advance permission will receive a 0 for the assessment. Permission to miss a quiz or exam requires, but is not guaranteed by, verifiable written documentation of the reason. A student who receives permission to miss a quiz or exam will have his or her grade for the missed work prorated based on his or her performance on the remainder of the assessments. We will not give make-ups. Every student must take the final exam (and second exam) during the scheduled final exam period unless permission to reschedule is obtained through the Office of Student Services and Advocacy: www.ossa.uconn.edu.

Academic integrity: Plagiarism and cheating are violations of the student conduct code, and may be punished by failure in the course or, in severe cases, dismissal from the University. For more information, see Appendix A of the Student Conduct Code: www.community.uconn.edu/student_code_appendixa.html.

Disabilities: If you have a disability for which you may be requesting an accommodation, you should contact a course instructor and the Center for Students with Disabilities (Wilbur Cross Building, Room 201, www.csd.uconn.edu) within the first two weeks of the semester.

Class objectives: The objectives of this course are to familiarize students with the mechanisms of evolutionary change (processes of evolution), major patterns of evolution, and the history of the diversity of life.

Topics, Readings and Tentative Lecture Schedule
(check website regularly for updates)

Revised Syllabus for the second half of the semester

Tu	Mar	15	Geographic variation, continued. Factors that inhibit gene flow- pre- and post mating isolation, natural selection at the molecular level.	Ch 17 & 18
Th		17	Species concepts in space and time. The origin of biodiversity.	Ch 17 & 18
Tu		22	Speciation mechanisms, Hybridization, reproductive character displacement, and speciation	Ch 17 & 18
Th		24	Systematics, the study of biodiversity and its origins. Problems in constructing relationships: polymorphisms and homoplasy.	Ch 2 & 3
Tu		29	Homoplasy (continued): convergence, parallelisms, and reversals in evolution. Tree thinking.	Ch 2 & 3
Th		31	Reconstructing evolutionary trees from morphological and molecular data.	Ch 2 & 3
Tu	Apr.	5	The tempo of molecular evolution; is there a molecular clock?	Ch 2
Th		7	A review of the tree of life and the major innovations in animal evolution. **Quiz 2**	Review intro bio
Tu		12	The origin of evolutionary novelties: Body plans, constraints; pre-adaptation, modification of existing traits: gene duplication, gene regulation.	Ch 21 & 22
Th		14	Evolutionary novelties (continued) Homeobox genes, Master control genes. Flies with eyes on their wings. Ontogeny and phylogeny, Allometry.	Ch 21 & 22
Tu		19	Overview of the fossil record. Paleozoic: Cambrian explosion? Origin of vertebrates, invasion of land. Ordovician (age of jawless vertebrates), Silurian (first life on land), Devonian (age of fishes). Carboniferous (clubmoss forests); Permian. Origin of mammals. The Permo-Triassic boundary mass extinction.	Ch 4 & 5 (plus 168-171 and Box 7A)
Th		21	Mesozoic: The age of reptiles. Pangea, Laurasia & Gondwanaland. Origin of birds; insects and angiosperms radiate. K-T Boundary: extinction of the dinosaurs. Birds and mammals cross the boundary	Ch 4, 5 & 6
Tu		26	The Cenozoic: Greenhouse to Icehouse. Continental drift, land bridges, mountain building. Modern biogeographic distributions take shape. The great American interchange. Primate evolution.	Ch 4, 5 & 6
Th		28	Human evolution; Mitochondrial Eve and her relatives. Africa, our most diverse continent. Humans invade Asia and the Pacific and later North America. Biogeography and Biodiversity	Ch 4, 5 & 6
Th	May	5	**Exam 2 & Comprehensive Final Exam** (8 am—tentative schedule)	