BIOLOGY 230 : EVOLUTION : Fall 2007

John R. Thomlinson

Tuesday-Thursday, 10:00 – 11:15 am, NSM D-129, Prerequisite: BIO 122

Text: Freeman, S. and J. C. Herron. 2007. Evolutionary Analysis, 4th Ed. Prentice-Hall, New Jersey, USA.

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Office Hours: T 1:00 – 3:00 pm, W 09:00 – 11:00 am

This course will give the student an overview of the principles of evolution. It will cover the phylogenetic classification of organisms, the fossil record and earth history, biogeography, biodiversity, genetic variation, natural selection, the species concept and speciation, genomes and gene expression, among other topics. We will also discuss the role of evolution science in society. Some of the material presented will be from the text. Other material will be from other sources.

Attendance is required for each class session, because I firmly believe that education works best when everyone participates. I will allow three unexcused absences: after that, any absences must be approved by me in advance. Each additional unapproved absence will carry a charge of 1 percentage point. I encourage questions in class, and from time to time we will have discussion sessions on an assigned journal article. **READ** all assigned chapters before coming to class. I know that all of you have very full schedules, but you will gain much more from the class sessions if you have some background knowledge of the topics to be covered, and you will, I hope, have questions about specific areas. All assignments will be due one week from the day announced. I do not allow make-up work unless there are compelling reasons (medical emergency, etc).

Grades will be assigned on a standard scale:

94 - 100: A	73 - 76: C
90 - 93: A-	70 - 72: C-
87 - 89: B+	67 - 69: D+
83 - 86: B	60 - 66: D
80 - 82: B-	0 - 59: F
77 - 79: C+	

Points will be awarded as follows:

Exam I:	20%
Exam II:	20%
Exam III:	20%
Final Exam:	20%
Assignments:	20%

Academic Integrity: Cheating or plagiarism is subject to discipline as provided in Title 5, California Code of Regulations. See the University Catalog under Academic Integrity for further information. In particular, it is important to cite all your sources on assignments. If you have any questions on how to do that, please ask me.

CSUDH adheres to the Americans with Disabilities Act with respect to providing reasonable accommodations for students with temporary and permanent disabilities. To receive accommodation, students with disabilities must register with campus Disabled Student Services. For further information, access the University Catalog, Campus Services, Disabled Student Services.

Course Learning Objectives

At the successful completion of the class, the student will be able to:

Describe the process of organic evolution
Describe the background to the theory of evolution
Interpret a phylogenetic tree
Describe in general terms the history and patterns of evolution of life on earth
Describe the genetic basis of evolution
Describe the process of natural selection and speciation
State the difference between genotype and phenotype
Compare the roles of individuals as units of natural selection and populations as units of evolution
Describe the evolution of cooperative behavior
Describe coevolution
Critique the debate over evolution versus non-scientific explanations of life

CLASS SCHEDULE

Date	Class	Topics	Readings *
Aug 28	1	Evolutionary Biology	None
Aug 30	2	Evolutionary Trees	Chapter 4
Sep 4	3	The Origin of Life	Chapter 17
Sep 6	4	The History of Life	Chapter 18
Sep 11	5	The Geography of Evolution	Chapter 4
Sep 13	--	Review and Discussion	----
Sep 18	--	**Exam I**	----
Sep 20	6	Natural Selection	Chapter 3
Sep 25	7	Mutation	Chapter 5
Sep 27	8	Mendelian Genetics I	Chapter 6
Oct 2	9	Mendelian Genetics II	Chapter 7
Oct 4	10	Linkage	Chapter 8
Oct 9	11	Quantitative Genetics	Chapter 9
Oct 11	--	Review and Discussion	----
Oct 16	--	**Exam II**	----
Oct 18	12	Adaptation	Chapter 10
Oct 23	13	Sexual Selection	Chapter 11
Oct 25	14	Evolution of Social Behavior	Chapter 12
Oct 30	15	Life Histories	Chapter 13
Nov 1	16	Coevolution	Chapter 1
Nov 6	17	Evolution and Human Health	Chapters 14
Nov 8	--	Review and Discussion	----
Nov 13	--	**Exam III**	----
Nov 15	18	Species and Speciation	Chapter 16
Nov 20	19	Phylogenomics and Molecular Evolution	Chapter 15
Nov 22	--	**THANKSGIVING – NO CLASS**	----
Nov 27	20	Evolution and Development	Chapter 19
Nov 29	21	Human Evolution	Chapter 20
Dec 4	22	Alternative Viewpoints	Chapter 2
Dec 6	--	Review and Discussion	----

* These **must** be read **prior** to coming to class

The instructor reserves the right to change the syllabus as necessary.