

Human Evolution BIOL 3211 - Human Evolution Fall 2016 DRAFT Syllabus

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Date	Lecture #	Topic	Readings
T Aug 30	1	Context and Intro to Evolutionary Genetics	J_Ch1
Th Sept 1	2	Darwin and Mendel	Raff [*Online] Muller (1922)
T Sept 6	3	Basic Human Paleontology	J_Ch 9. Pontzer (2012) [*Online]; Brown et al (2004)
Th Sept 8	4	How many species of humans?	J_Ch9. Green et al., (2010); Lordkipanidze et al (2013)
T Sept 13	5	Overview of the Human Genome	J_Ch2, Harris Ch3.
Th Sept 15	6	Neanderthals and Denisovans ABBA BABA	Harris Ch. 8 Sankararaman et al (2014); Meyer et al (2012) review Green et al (2010)
T Sept 20	7	Mutation and Variation 1	J_Ch3
Th Sept 22	8	Mutation and Variation 2	J_Ch3 1000HumanGenomes (2010)
T Sept 27	9	Repeat sequences	J_Ch3
Th Sept 29		Exam 1	
T Oct 4	10	Whole Genome Sequencing	J_Ch4
Th Oct 6	11	Population Genetics 1	J_Ch5 Harris Ch4
T Oct 11	12	Population Genetics 2	J_Ch5 Harris Ch4
Th Oct 13	13	Population Genetics 3	J_Ch5 Harris Ch4
T Oct 18	14	Θ and Divergence	J_Ch6 Problem Set 1 is due
Th Oct 20	15	Phylogenetic Trees	J_Ch6 Project approval deadline
T Oct 25		Exam 2	Lectures 10 thru 15 (up thru phylogenetic trees)
Th Oct 27	16	F_ST	Holsinger & Weir (2009)
T Nov 1	17	F_ST, STRUCTURE, PCA	Barreiro et al. 2008
Th Nov 3	18	Population structure in modern humans	Rosenberg et al. 2002, Novembre et al. 2008
T Nov 8	19	Denisova, Iceman, and ancient Europeans	Reich et al. 2010, Keller et al. 2012, Skoglund et al. 2012, Skoglund et al. 2014
Th Nov 10	20	Modern Humans Out of Africa	Jobling Ch 11
T Nov 15	21	Origins of Agriculture	Jobling Ch 12
Th Nov 17	22	Modern Humans Spreading Around the World	Jobling Ch 12 & 13
T Nov 29	23	Detecting Natural Selection	
Th Dec 1		Exam 3	Lectures 16 thru 22
T Dec 6	24	Case studies of genes under selection 1	
Th Dec 8	25	Case studies of genes under selection 2	
TBA		FINAL EXAM	

Office Hours: immediately after class (not before) or by appointment (contact by email)

Texts (required):

Human Evolutionary Genetics 2<sup>nd</sup> Edition. Jobling et al.,

Ancestors in Our Genome. Harris

Human Evolution (Biol 3211) is an upper level biology course.

Since we last shared a common ancestor with chimpanzees, over 6 million years ago, the human species experienced a series of unusual adaptations so that today humans dominate planet earth and are masters of arts and letters, science and technology. Humans are both highly intelligent and highly social, so that when we work together extraordinary and unpredictable things can happen. This course will cover the evolutionary history of humans, with an emphasis on the genetic aspects of the process. Because of the emphasis on the genetic and genomic aspects of human evolution, a Genetics class is a prerequisite.