

BIO 11: The Science of Life

Why can't we all just get along? Cooperation and Conflict across the Biological Sciences

Winter 2012

Lectures: 10A Tu & Th 1000-1150: x-hour: W 1500-1550

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022 Class of 1978 Life Sciences Center

Office Hours: Tuesday, Thursday 0800-0930 & 1200-1400 or by appointment

This course has three goals: The first is to introduce you to a major problem in the biological sciences, namely how cooperation and conflict are manifested at various levels of biological organization. The second is to survey the various ways that biologists address that problem and what various solutions to the problems that have developed at different hierarchies in biological organization and in different groups of organisms through the processes of evolution. And the third (and most important one) is to stimulate your thinking about these and many other problems in an evolutionary framework. Also, along the way you will learn a lot of biology and see how biologists apply what they know to new problems.

Date	Topic	Textbook Chapter
Tuesday, September 16, 2014	The Game of Life	-
Wednesday, September 17, 2014		
Thursday, September 18, 2014	How Did Life Start?	1
Tuesday, September 23, 2014	Chemistry of Life	2-3
Wednesday, September 24, 2014	Review	
Thursday, September 25, 2014	Domains	4, 11 & 16
Tuesday, September 30, 2014	Metabolism	5
Wednesday, October 01, 2014	Quiz	
Thursday, October 02, 2014	Respiration	6
Tuesday, October 07, 2014	Green Cooperation	7
Wednesday, October 08, 2014	Review	
Thursday, October 09, 2014	20 Questions	--
Tuesday, October 14, 2014	Multicellularity	15, 17, 20 & 31
Wednesday, October 15, 2014	Review	
Thursday, October 16, 2014	Central Dogma	10

Tuesday, October 21, 2014	Replication & Sex	8
Wednesday, October 22, 2014	Quiz	
Thursday, October 23, 2014	Inheritance & Population Genetics	9 & 13
Tuesday, October 28, 2014	Causes of Evolution	13
Wednesday, October 29, 2014	Review	
Thursday, October 30, 2014	HIV	10 & 24
Tuesday, November 04, 2014	Rabbits & Evolution	--
Wednesday, November 05, 2014	Review	
Thursday, November 06, 2014	Parents & Offspring	--
Tuesday, November 11, 2014	Human Evolution	19
Wednesday, November 12, 2014	Quiz	
Thursday, November 13, 2014	Cultural Evolution	--
Tuesday, November 18, 2014	Cities as Cells	--

Textbook: Reece, J. B., M. R. Taylor, E. J. Simon, and J. L. Dickey, K. A. Hogan. 2012. Biology: Concepts and connections. 8th edition. Pearson/Benjamin Cummins, San Francisco. (other recent editions will work just fine as well. They don't change much.)

Grading: Grades will be based on three quizzes and a final exam. The quizzes will count as 20% of the grade each, and the final for 40%. The quizzes will be scheduled in the X-Hour. The final exam is cumulative. Both will be short answer/essay exams, with questions requiring from a few sentences to a few paragraphs to answer.

Students with Disabilities: I encourage students with disabilities, including "invisible" disabilities like chronic diseases, learning disabilities, and psychiatric disabilities to discuss what appropriate accommodations might be helpful to them. Any student with a documented disability needing academic adjustments or accommodations is requested to speak to me by the end of the second week of the term, all discussions will remain confidential, although the Student Disabilities Coordinator may be consulted to verify the documentation of the disability.

Religious Holidays: Some students may wish to take part in religious observances that occur during this academic term. If you have a religious observance that conflicts with your participation in this course, please meet with us before the end of the second week of the term to discuss appropriate accommodations.

The Honor Principle: Academic honesty is essential. The following is quoted directly from the [Dartmouth College Student Handbook](#): "Fundamental to the principle of independent learning are the requirements of honesty and integrity in the performance of academic assignments, both in the classroom and outside. Dartmouth operates on the principle of academic honor, without proctoring of examinations. Students who submit work that is not their own or who commit other acts of academic dishonesty forfeit the opportunity to continue at Dartmouth." The complete text of the Academic Honor Principle is in the Student Handbook. Please read it

carefully. Any violations of the Honor Principle within the context of Biology 11 will be referred to the Committee on Standards. The quizzes and the final examination must be completed without reference to written materials other than those provided with the quiz/exam and must be completed without communication with anyone else (the only permissible exception is that students may request clarification of any exam question from the course instructor who is present expressly for that purpose). The answers that you provide must be entirely your own work.