

BIOL101H: Honors General Biology

Spring 2017

Dr. C. Young

Lecture/Discussion: MW 12:45-2:50, Room 429

Lab: F 8:30-11:40, Room 429

Office hours: M 3:00-5:00, T 1:00-4:30, Room 411-17

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MasteringBiology: <http://www.masteringbiology.com> (Course Code: **YOUNGBIOL101HSp17**)

TEXT: *Campbell Essential Biology with Physiology* by Simon, Dickey, Reece, and Hogan. 5th ed., Pearson Publishing, 2016 with MasteringBiology access.

LAB TEXT: Labs are available for download on MyGateway.

COURSE DESCRIPTION: During the semester, we will be investigating the basic processes of life, genetics, evolution, biodiversity, and ecology. We will understand why evolution is a unifying theme throughout all of biology and discuss the role of mankind on this planet.

COURSE OBJECTIVES: This course is designed to **challenge** you to develop a better understanding of some of the processes required for life. It will deal with the diversity of living organisms as well as the complex interactions that exist between different populations. The idea is to better prepare you for this, the biological century.

STUDENT LEARNING OUTCOMES:

- Upon successful completion of BIOL101HF, Honors General Biology, the student will be able to collect and analyze data using standard scientific techniques and methodology.
- Upon successful completion of BIOL101HF, Honors General Biology, the student will be able to evaluate the relationships between various components of an ecosystem.
- Upon successful completion of BIOL101HF, Honors General Biology, the student will be able to summarize the relationships between genetic variation, natural selection, and speciation in evolutionary terms.

NAVIGATING MY WEBSITE: From my home page, scroll down to the bottom and click on BIOL101H. This will take you to the all-important *Course Guide Page*. From here, you can access *Course Announcements*, *Class Presentations* outlines, *MasteringBiology*, *Links*, and the course *Syllabus*.

COURSE PROJECT: PREPARING AN ELECTRONIC QUOTE JOURNAL

50 points: Prepare an electronic quote journal that covers the reading assignments (chapters) throughout the semester. To prepare this journal, complete a one-page entry (minimum of around 250 words) for each reading assignment. You should complete this entry by the day after the assignment appears in the course calendar, however you will submit your journal entries throughout the semester. Begin by selecting a short quote (usually one to three sentences) from the reading. Select the quote using any of the following criteria: it's a new insight for you, it's something you have a question about, it's something you don't understand, it's something you'd like more information about, it's something with which you disagree, it relates to an activity you've completed in class, it relates to content in a previous chapter, or it reminds you of something you recently read in a newspaper or magazine or on the web. Copy the exact quotation into your journal entry and identify where it is found in the text. Explain which criterion it meets and why. Then, explore the quotation in more detail. For example, describe what's new about the insight; why the insight is important; what precisely you don't understand or have questions about; how it relates to another activity, content in another chapter, or a news article you read; or elaborate on your objections to it. You will submit your journal entries via e-mail 5 times during the semester after each 4 chapters.

EVALUATION: The course consists of both a discussion and a laboratory component. The discussion component will account for 65% of the grade, MasteringBiology 10%, and the laboratory 25%. Your final grade will be determined by this combination. **However, it will not be more than one letter grade higher than the discussion grade.**

GRADE DISTRIBUTION FOR LECTURE/DISCUSSION

The discussion component of your grade (65%) consists of 4 exams given throughout the semester, the Quote Journal, and various activities/assignments.

4 Exams	400 points
Quote Journal	50 points
Miscellaneous informal group and individual writing activities	~100 points
Total	~550 points

GRADE DISTRIBUTION FOR LABORATORY WILL BE DISCUSSED DURING THE FIRST LAB PERIOD.

Proposed Percentage Grade Scale including Discussion and Lab (Subject to change)

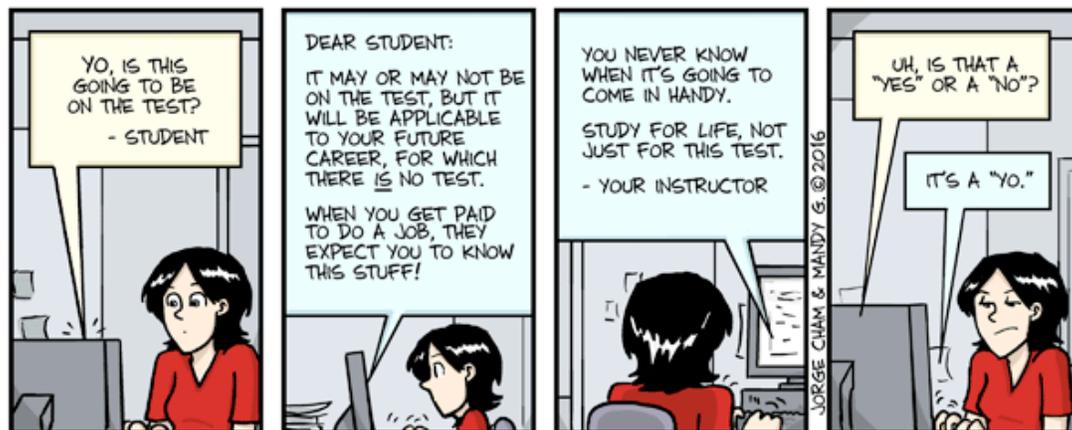
A	=	90	-	100
B	=	80	-	89
C	=	70	-	79
D	=	60	-	69

CLASS PARTICIPATION: You are absolutely required to participate in class. Your attendance is also mandatory. Each class period, you will be expected to complete an assignment that will be worth 5 points. Some of these will require prior preparation. If this is the case, I will inform you the period before. Some assignments require reading the chapter before class. Some assignments may carry over two or more class periods. Since you won't always know what to expect, it is important to show up for every class and pay attention.

TIPS FOR SUCCESS

- Become part of a study group.
- Read the assignment before coming to class.
- Keep an index card file of words you don't know. Write definitions on the backs of the cards.
- Ask questions in class.
- Consider my office hours a tutoring session and use them to work with me before you fall behind.
- Modify the material to suit your learning style: make up songs, tell stories, draw pictures - anything to make it easier to learn.
- Check the course web site often. You will find everything from class notes to assignments to fun links. On my home page, scroll down to the bottom. Clicking on BIOL101H will take you to the Guide Page where I will post the dates for any new material. You can also keep track of the MasteringBiology assignments on this page.
- Pay attention and take notes during the multimedia presentations (videos, video segments, CD-ROMs). You are responsible for the information provided.

INSTRUCTOR INFORMATION: As your instructor, I thought you should know a little about me. I am married and my wife teaches Life Science at Valencia High School in Placentia. I have three children, a son 24, a daughter 22, and my youngest daughter 16 years old. We have four dogs, all mutts, all adopted. We also have two horses, a snake, a bearded dragon, and a guinea pig. I grew up in San Francisco, received my B.A. in Bacteriology and Immunology from the University of California, Berkeley, my Ph.D. in Microbiology from Columbia University, and did post-doctoral research at the University of Washington. I moved to southern California to take a position at California State University, Fullerton and joined the faculty of Fullerton College in 1996. I teach *General Biology*, *Human Biology*, *Cell & Molecular Biology*, and *Genetics & Evolutionary Biology* at Fullerton College. When I'm not trying to get in shape, I try to spend time with my wife and kids. In my spare time, I am constantly striving to stay current and bring the newest, most exciting information into the classroom. I keep up with news on the web and have physical subscriptions to Science, Science News, and Genetic Engineering News, among others. I am currently on the Teacher Advisory Board for the Understanding Evolution web site (<http://evolution.berkeley.edu>).



COURSE CONDUCT: Please refer to the Fullerton College catalog for information on academic honesty.

ACADEMIC DISHONESTY (my interpretation):

Academic dishonesty is claiming someone else's work as your own, using unauthorized materials during exams, stealing papers for others to use, or sharing your exams/written work with others. If you turn in someone else's work (even portions), then you will both get a zero for that assignment. For anyone found cheating, stealing, and/or copying on exams – the least severe punishment is immediate failure from the course. This includes any access to web search materials during exams. Other possible outcomes include expulsion from Fullerton College with the incident marked on your college transcript.

The use of electronic devices in class is allowed as long as it is used for the course.

Any number of unexcused absences beyond two will result in your being dropped from the course. If you miss a discussion, it is solely your responsibility to find out what went on in class and to keep up with the material. If you miss an Exam due to a verifiable absence (funeral notice, hospital admission slip, police report, etc.), you must contact me as soon as possible to arrange a make-up. If at all possible, make-up exams should be taken before the next class period.

Attendance is a matter of individual choice in this class. However, a strong association exists between attendance and grades. Students who miss regularly *rarely* do well in the course, and I hope you don't decide to test this already proven hypothesis.

Tardiness will not be tolerated. Every two tardies count as one absence. Lots of stuff goes on at the beginning of class. If you miss this crucial time period, you are likely to be lost the rest of the class. Also, although the points work out to approximately 5 points per day, some assignments will carry over from day to day and missing part of the material might lead to you only receiving partial credit.

Late assignments will be penalized. For any assignments turned in late, the following penalty will be assessed:
10% deducted per day late, including non-class days

Participation, not merely attendance is mandatory. Under Title 5 of the California Administrative Code, Section 58004: A student may be dropped if no longer participating in the course. No longer participating includes but is not limited to excessive absences.

Emergency Response. Please take note of the safety features in and close to your classroom, as well as study the posted evacuation route. The most direct route of egress may not be the safest because of the existence of roofing tiles or other potentially hazardous conditions. Similarly, running out of the building can also be dangerous during severe earthquakes. During strong quakes the recommended response is to duck--cover--and hold until the shaking stops. Follow the guidance of your instructor. You are asked to go to the designated assembly area. Your cooperation during emergencies can minimize the possibility of injury to yourself and to others.

Fullerton College is committed to providing reasonable accommodations for students with disabilities upon request of the student (in a timely fashion) and upon verification of disability.

Dates	Discussion Topic	Lab Exercise
1. Jan 30 2. Feb 1	Introduction/ 1. Biology Today 2. Essential Chemistry for Biology	Feb 3 (A) Laboratory Safety (B) Data Tables & Graphs Applying the Scientific Method
3. Feb 6 4. Feb 8	2. Essential Chemistry for Biology/3. The Molecules of Life 3. The Molecules of Life	Feb 10 (E) The Microscope
5. Feb 13 6. Feb 15	Feb 12 Last day to drop classes without a "W" 4. A Tour of the Cell 5. The Working Cell	Feb 17 - No Lab
Feb 20 7. Feb 22	Presidents Day – No Classes 6. Cellular Respiration: Obtaining Energy from Food	Feb 24 (F) Cell Processes
8. Feb 27 9. Mar 1	7. Photosynthesis: Using Light to Make Food/22. Nutrition and Digestion 22. Nutrition and Digestion	Mar 3 (D) Digestion To Know a Commons*
10. Mar 6 11. Mar 8	Monday, Exam #1 (Chapters 1-7, 22) 8. Cellular Reproduction: Cells from Cells	Mar 10 (Q) Coastal Wetlands Field Trip
12. Mar 13 13. Mar 15	9. Patterns of Inheritance 9. Patterns of Inheritance	Mar 17 (H) Mitotic Cell Cycle (I) Meiotic Cell Cycle
14. Mar 20 15. Mar 22	10. The Structure and Function of DNA 11. How Genes Are Controlled	Mar 24 (J) Chromosomal Problems and Karyotypes (K) Human Genetics and Create-A-Kid (L) Genetics Problems
16. Mar 27 17. Mar 29	12. DNA Technology Wednesday, Exam #2 (Chapters 8-12)	Mar 31 Commons Presentations Know Your Community: Improving the Commons*
18. Apr 3 19. Apr 5	13. How Populations Evolve 13. How Populations Evolve	Apr 7 (M) Plant Reproduction
Apr 10-14	Spring Recess – No Classes	
20. Apr 17 21. Apr 19	13. How Populations Evolve 14. How Biological Diversity Evolves	Apr 21 (P) Natural Selection
22. Apr 24 23. Apr 26	14. How Biological Diversity Evolves 17. The Evolution of Animals	Apr 28 (R) CSUF Arboretum Field Trip
24. May 1 25. May 3	Apr 30 Last day to withdraw from classes 26. Reproduction and Development Wednesday, Exam #3 (Chapters 13-14, 17, 26)	May 5 (T) Cabrillo Marine Aquarium Field Trip
26. May 8 27. May 10	18. An Introduction to Ecology and the Biosphere 19. Population Ecology	May 12 (N) Interaction of Predator Prey Populations
28. May 15 29. May 17	19. Population Ecology 20. Communities and Ecosystems	May 19 Community Commons Presentations
30. May 22 31 May 24	20. Communities and Ecosystems Wednesday, Exam #4 (Chapters 18-20)	

Grade Distribution for Laboratory

The laboratory component consists of 8 quizzes at 5 points each, lab reports (10 points each), field trips (30 points each), and two Commons projects (20 and 30 points). If you miss a lab, you must check with me on how to make it up. **Important: You must complete the lab section of the course with a C (70%) or better in order to pass the class!**

Assignments	Possible Points
Lab Quizzes (8)	40
(B) Data Tables & Graphs	10
(B) Applying the Scientific Method	10
(E) The Microscope	10
(F) Cell Processes	10
(D) Digestion	10
(H) Mitotic Cell Cycle	10
(I) Meiotic Cell Cycle	10
(J) Chromosomal Problems and Karyotypes	10
(K) Human Genetics and Create-A-Kid	10
(L) Genetics Problems	10
(M) Plant Reproduction	10
(P) Natural Selection	10
(N) Interaction of Predator Prey Populations	10
(Q) Coastal Wetlands Field Trip	30
(R) CSUF Arboretum Field Trip	30
(T) Cabrillo Marine Aquarium Field Trip	30
To Know a Commons Class Presentation	20
Know Your Commons: Improving the Commons Class Presentation	30
Lab Total	310