

# Biology 171 – Introductory Biology

Fall Semester 2006

MWF 8:30 - 9:20 am, Spalding 155

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**Textbook:** Campbell, Neil A. & Jane B. Reece. 2005. Biology, 7<sup>th</sup> Edition. Benjamin Cummings Publishers, 1231 pages. Available at the UH bookstore (used and new copies \$107-141). Also available through internet booksellers (e.g. Amazon.com).

**Office Hours:** Friday 9:30 – 10:30 am (Dean Hall room 001), or by appointment. You can also ask me questions outside the classroom for a few minutes after class each day.

**Course description:** This is an introduction to biology for life science majors. Topics covered include cell structure and chemistry; growth, reproduction, basic cell biology, genetics and evolution, phylogeny and systematics; viruses, bacteria and simple eukaryotes.

**Evaluation:** You will be evaluated through two midterm exams (each worth 33%) and one final exam (worth 34%). Exams are non-cumulative – material on the first and second midterm will not be on the final exam (except for concepts that you need to remember to understand the last third of the course material).

- If you miss an exam, it is your responsibility to contact me ASAP to arrange for a make-up exam. Make-up exams will only be given within one week of the original exam date, and will only be arranged if you provide a medical note. No extra credit assignments will be given for this course.
- Students are expected to abide by the University of Hawaii's Student Code of Conduct at all times – cheating on midterms or exams will result in a failing grade for the entire course.
- Only final course grades will be curved and applied letter grades, not midterm exams. What do I mean by curving the grades? The average point value for the entire class will be set at a C+ (the University of Hawaii defines a "C" as the average grade), and grades higher or lower distributed around that average.

## Hints and suggestions:

This is a challenging course, and it can be overwhelming both because there are almost 400 students enrolled, and because there is a large amount of material presented. For the midterms and final exam, you are responsible for everything covered in lecture (e.g. concepts and definitions covered in my PowerPoints or explained in class). Each topic covered in class also has some associated textbook reading assigned. The textbook is there to help you understand the lecture material – you are NOT required to know material that is included in the textbook but was not covered in class. Additionally, material covered in your laboratory sections will NOT be on the midterms and exams for this class.

## How to succeed in Biology 171:

- Come to class prepared to learn. Ask questions if the material is unclear.
- Use your laboratory Teaching Assistants as an additional source of help, as well as the Biology 171 Help Desk in Dean Hall room 001. Use office hours to clarify material that is confusing, or talk to me for a few minutes after class. This is a big class, but don't be intimidated about talking to me.
- Review the questions at the end of each chapter as we cover the material in lecture.
- Review your notes after each class and identify the key concepts. This really works very well – read over your notes the night after lecture to keep familiarizing yourself with the terminology. Typically people need to read material about three times before it really “sticks”.
- Use the textbook website to take practice quizzes on the chapter information, to review the textbook online and to view supplementary material.
- The Learning Assistance Center ([www.hawaii.edu/csdc](http://www.hawaii.edu/csdc)) holds workshops on note taking, textbook reading and exam preparation. Take advantage of these services.
- As a rule of thumb, you are expected to spend 2 hours per credit per week preparing and reviewing material. **That is 6 hours per week for this class!!** At the university level, YOU are in charge of your own education – don't leave everything until the night before. Your best bet for getting a good grade is to keep on top of the material as we move through the course.

## WebCT and Biology 171

We will be using WebCT to distribute class information. Lecture PowerPoints will be available by WebCT either before class or very soon after class each day (I will do my best to have them available beforehand, but occasionally something may come up so that I am unable to do this). Some students find it very effective to bring a printout of the lecture presentation to class and to make notes on this as I lecture – feel free to do this if it works well for you. Your midterm grades will also be available through WebCT. This ensures that only you can see your grade.

## Class Syllabus

Date	Lecture	Textbook
21 Aug 2006	Introduction to the course	Chapter 1
23 Aug 2006	Chemistry of Life	Chapters 2 & 3
25 Aug 2006	Carbon and the molecular diversity of life	Chapter 4
28 Aug 2006	Biological Building Blocks: carbohydrates, lipids	Chapter 5
30 Aug 2006	Biological Building Blocks: Proteins	Chapter 5
01 Sept 2006	Biological Building Blocks: Nucleic Acids	Chapter 5
04 Sept 2006	<b>LABOR DAY - HOLIDAY</b>	
06 Sept 2006	A tour of the cell	Chapter 6
08 Sept 2006	A tour of the cell	Chapter 6
11 Sept 2006	Membrane structure	Chapter 7
13 Sept 2006	Membrane function	Chapter 7
15 Sept 2006	Metabolism	Chapter 8
18 Sept 2006	Metabolism	Chapter 8
20 Sept 2006	<b>FIRST EXAM – CHAPTERS 1-8</b>	Chapters 1-8
22 Sept 2006	Cellular respiration	Chapter 9
25 Sept 2006	Cellular respiration	Chapter 9
27 Sept 2006	Photosynthesis	Chapter 10
29 Sept 2006	Photosynthesis	Chapter 10
02 Oct 2006	Cell communication	Chapter 11
04 Oct 2006	Cell communication	Chapter 11
06 Oct 2006	The cell cycle	Chapter 12
09 Oct 2006	Meiosis and sexual life cycles	Chapter 13
11 Oct 2006	The Gene: Mendel's discoveries	Chapter 14
13 Oct 2006	The Gene: Mendelian inheritance	Chapter 14
16 Oct 2006	The Chromosomal basis of inheritance	Chapter 15
18 Oct 2006	The Molecular basis of inheritance	Chapter 16
20 Oct 2006	Genes to proteins	Chapter 17
23 Oct 2006	Genes to proteins	Chapter 17
25 Oct 2006	<b>SECOND EXAM – CHAPTERS 9-17</b>	Chapters 9-17
27 Oct 2006	Genetics of viruses	Chapter 18
30 Oct 2006	Genetics of bacteria	Chapter 18
01 Nov 2006	Eukaryote Genomes	Chapter 19
03 Nov 2006	DNA Technology	Chapter 20
06 Nov 2006	DNA Technology	Chapter 20
08 Nov 2006	Genetic Basis of Development	Chapter 21
10 Nov 2006	<b>HOLIDAY – VETERAN'S DAY</b>	
13 Nov 2006	Genetic Basis of Development	Chapter 21
15 Nov 2006	Darwin: Descent with Modification	Chapter 22
17 Nov 2006	Evolution of Populations: Population Genetics	Chapter 23
20 Nov 2006	Evolution of Populations: Natural Selection	Chapter 23
22 Nov 2006	Origin of Species	Chapter 24
24 Nov 2006	<b>HOLIDAY – THANKSGIVING WEEKEND</b>	
27 Nov 2006	Phylogeny and Systematics	Chapter 25
29 Nov 2006	Phylogeny and Systematics	Chapter 25
01 Dec 2006	Origins of Life	Chapter 26
04 Dec 2006	Prokaryote Diversity	Chapter 27
06 Dec 2006	Last day of class – optional review for final	Chapters 18-27
15 Dec 2006	<b>FINAL EXAM (Chapters 18-27) 7:30-9:30am</b>	Chapters 18-27