

AP Biology Course Information

Ms Eccles

AP Biology Course 2009 - 2010

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Introduction : The study of life sciences is at the forefront of our culture now. Our population is expanding, growing older, and continues to have a major impact on the health of the biosphere. Although words like DNA and genome have become household words, even scientists engaged in research cannot keep up with the current pace of biological research. The ability of research to unravel many of life's mysteries makes it more, not less, fascinating. I hope your presence in this class indicates your desire to share with me my deep appreciation and fascination for the world around us. By the end of this course you should be able to explain to anyone that asks what is meant by "the unity and diversity of life."

Objectives - This course is designed to cover the equivalent of a two-semester college course in general biology. At the end of this course in May you will be sufficiently prepared to successfully complete the AP Examination in Biology. We will try to discuss content of the course within the frame work of **major themes** that apply throughout the curriculum. We will also try to focus on important ideas or concepts that form our current understanding of a particular topic. Developing a good grasp of concepts and themes depends on a solid foundation of factual knowledge. Although it is better to understand important concepts than lots of facts, you will need to demonstrate your conceptual understanding by providing specific examples and facts to support your answers when writing free-response questions.

Course Overview - Topics we will cover are loosely grouped as follows:

- I. Biochemistry, cells, metabolism, photosynthesis (1st quarter)
- II. DNA, genetics, and biotechnology (2nd and 3rd quarter)
- III. Evolution, biological diversity and classification (1st quarter)
- IV. Plant structure and function (3rd quarter)
- V. Animal Systems (4th quarter)
- VI. Ecology (4th quarter)

AP Biology Exam - Monday, May 10, 2008 at 8 AM

Bryn Mawr Exam - Friday, January 22, 2008 at 8:15 AM

Textbook - "Biology" by Neil Campbell and Jane B. Reece, 8th Edition, Benjamin Cummings, 2007. This book can be quite intimidating at first glance. Although it doesn't read like a romance novel, the text is clearly written and the illustrations are excellent. The good news is that you will not need to learn all of the details about all of the topics and you will never (well, almost never) need to learn more detail about any of the topics presented in the textbook.

Additional materials - We will also use several websites and additional textbooks available here in class. Some reading guides and most protocols for labs will be provided. Each student will use a lab notebook for taking notes and data collection in class. These should normally be left here in the classroom.

Homework - Most homework consists of reading the text and taking your own notes on important concepts. Although you do not need to bring your book to class, you should bring your notes. It is very important to complete reading. You are responsible for all reading assigned *whether we cover the material in class or not*. You will be assigned worksheets on occasion. Some homework assignments will involve library and/or web searches and an essay-type write up.

Labs - You will complete two or three formal lab reports each semester. I will give you further information about the standard lab format. Each lab report will be worth 35 - 40 points. Lab "write-ups" are shorter and will be worth 10 - 20 points.

Quizzes - most are announced; **some will not be**. Point value will vary (5 - 20 pts).

"Quests" (30-40 points) - are intermediate-sized assessments covering one or two chapters of the text.

Tests (80 - 100 points) - Tests will include both multiple choice and free response-type questions. In some classes you will have an opportunity to practice free response questions from previous AP Exams. I will provide you with the grading rubrics when available. A missed test must be made up by the end of the next scheduled class day (not counting dropdowns). A make up test may not be the same test as that taken by the rest of the class. Missing a **second** test may result in points deducted from the total points.

Lateness and Absence - In spite of the need for seniors to miss some class time because of college-related activities, I expect you to keep up with reading and assignment deadlines. If you find yourself becoming overwhelmed, email me or come to see me. Usually something can be worked out that will ease things up a bit; don't make assumptions without talking to me first, however.

Cooperative learning - I would like to see you working as a class or in small groups as much as possible. Much of what you do in this course is completed independently outside of the classroom. Graded work, however, is your own responsibility. Lab reports, for example, although based on data collected and discussed as a group, must be a product of your own efforts only.

Suggestions for success in AP Biology (also see the introductory pages on this in textbook which were written by an experienced AP Biology teacher)

1 . Keep up with the assigned reading. This might mean skipping some of the details in a chapter. Concentrate on learning the important key concepts (not just the words but also what they mean). Pay attention to terms that are in boldface. **Look at all figures.** These often summarize key concepts in a visual way.

2 . When studying for a quiz or test, always read the **chapter review** and do Self-Quiz at end of each chapter (answers are at back of book). Use CD-ROM to practice more quiz questions if you have time.

3 . Ask questions in class or afterwards. Also, **offer answers to other students' questions.** This is not showing off. It will help bolster your confidence and give you a chance to practice explaining biological concepts in a non-threatening environment. The accuracy of your contribution is not as important as the fact that you made the effort. This kind of dialogue also fosters good class dynamics.

4 . We will not have time to go over whole quizzes or tests in class. I will review questions incorrectly answered by several students. If you do not understand why you missed a particular question, you should see me sometime after class. You can email me (ecclesc@brynmawrschool.org) to make an appointment or stop by my office. **It is always OK to come by my office without an appointment.** Unless I am already in a meeting with someone else, I can usually make time for you. My office is on the second floor of Hardy.

Finally, (and because I can't think of any other tips at the moment):

5 . *Get excited about the subject!* Biology is fascinating and awe-inspiring in its complexity and diversity. Although it is part of our nature to be interested in how humans function (humans have big egos), we represent just a small part of the vast and complex network called the biosphere. Fundamental (e.g. molecular) concepts or seemingly obscure details you encounter may seem remote and irrelevant when considered in isolation. Try to view this information as ways of understanding how all biological organisms are related.