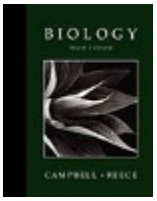
Course Syllabus

Introduction

AP Biology B Syllabus

Text: Campbell Biology (6th edition)
Student Text and E-Book ISBN: 0-8053-6624-5



Course Description

The two semester Advanced Placement Biology course, designed to prepare you to take the College Board Advanced Placement Biology exam, will acquaint you with the main themes in biology. The course is designed to be the equivalent of a two-semester college introductory biology course taken by biology majors and covers the topics of molecules and cells, heredity and evolution, organisms and populations. AP Biology A, the first semester, will focus on chemistry of life, cells, cellular energetics, heredity, molecular genetics, and evolutionary biology. The second semester course, AP Biology B, will focus on the diversity of organisms, the structure and function of plants and animals, and ecology. Class activities will include discussion, problem solving, online lab simulations and other interactive activities, lab reports, and an exploration project. The twelve required AP Biology Labs will be performed via online lab simulations, six each semester. Extensive practice in essay writing and in understanding and responding to multiple choice questions are an integral part of the class.

Learning Outcomes:

At the completion of AP Biology B, the student will be able to organize, discuss, interpret, and integrated topics related to

1. develop a conceptual framework for modern biology
2. design scientific experiments and interpret experimental results.
3. recognize unifying themes that integrate major topics of biology
4. classify organisms according to five-Kingdom and three-Domain classification systems.
5. describe how biodiversity relates to evolutionary relationships.
6. describe differences and similarities in major groups of microorganisms, fungi, plants, and animals.
7. describe the relation of form, function, and regulation of internal environments in representative plants and animals.
8. describe how interactions between organisms and their environment relate to the distribution and abundance of organisms
9. describe the historical development of major ideas in biology
10. apply biological knowledge and critical thinking skills to environmental and social concerns

Description of Course Methodology:

This project- and inquiry-based course will allow you to generate knowledge about biology via textbook and online readings, synchronous and asynchronous discussion with other students and with the teacher, interaction with online tutorials and animations, participation in online and hands-on inquiry-based simulations and activities, and development of a semester project.

Your teacher will be a guide for the journey, a facilitator, an events planner, and a resource advisor.

Always remember, you are the learner here! You are the one who needs to actively construct and acquire knowledge and this can be achieved by participation and completion of all readings and activities. This course requires your ACTIVE participation! AP Biology differs from an introductory high school biology course both in quality and quantity of topics and concepts covered and you are expected to take responsibility for your learning! Informal assessment will include an evaluation of the quality and timeliness of participation in class activities. Formal assessment will involve multiple-choice quizzes, lab reports, and written assignments. A lab exam and a final exam will be given at the end of unit 8.

Time Management:

Since this full semester course is completed In eight units, you should expect to spend 15--20 hours per unit on the readings, assignments, discussion (synchronous and asynchronous), quizzes, lab simulations and at home labs (explorations), and tests. The course will cover the material in chapters 1?8 and by the end of unit 4 and the material in chapters 9?25 by the end of the course. Because of time limitations some of the topics will be covered in more depth than others, some will be skimmed over, and some may be omitted. It is your responsibility to fill in these gaps as you prepare to take the AP Biology exam. KEEP A REGULAR SCHEDULE!

Course Outline

Unit	Topics	Activities	Chapter
1	Biodiversity I	Diagnostic Exam Essay: Structure?Function and Population Growth Online Lab: Lab Techniques Unit 1 Quiz	26--28
2	Biodiversity II	Essay: Genetic and Population Diversity Online Lab: Bacterial Transformation Unit 2 Quiz	29--34

3	Plant Form and Function I	Essay: Oxygen and Carbon Dioxide Cycles Online Lab: Transpiration Unit 3 Quiz	35--37
4	Plant Form and Function II	Essay: Plant Life Cycles and Plant Growth Online Lab: Plant Growth Unit 4 Quiz	38--39
5	Animal Form and Function I	Essay: Animal Physiology Online Lab: Circulatory Physiology Unit 5 Quiz	40-45
6	Animal Form and Function II	Essay: Animal Development Online Lab: Development and Sensation Unit 6 Quiz	46--49
7	Ecology I	Essay: Food Webs and Environmental Responses Online Lab: Animal Behavior Unit 7 Quiz	50-52
8	Ecology II	Timed Essay: Aquatic Ecosystems Online Lab: Dissolved Oxygen Unit 8 Quiz Final Exam	53--55

Assignment Submittal:

Responses to **Discussion Questions** will be posted in unit forums in the **Discussion Board** area.

Essay Assignments will be submitted as assignments in the Assignments Button

OnLine Lab Assignments will be submitted as assignments in the Assignments Button

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Assessment: Students will be graded on the following criteria:

Unit Quizzes

(10--20 points each unit)

Participation in online discussion forums

(5 points each unit)

Project Submission Assignments

(5 points each unit - 10 points for final project submission in Unit 8)

Essay Assignments

(10--20 points per unit)

OnLine Lab Assignments

(10--20 points each unit)

Final exam

(100 points)

Grading Standard Grading Scale used by National University Virtual High School

Scale:

NUVHS Expected Schoolwide Learning Results (ESLRs)

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It is anticipated that NUVHS students will be:

Engaged Learners

1. Demonstrate self-directed learning skills such as time management, and personal responsibility through the completion of course requirements
2. Develop an understanding of their own preferred learning styles to enhance their overall academic potential
3. Incorporate effective and relevant internet and multimedia resources in their learning process to broaden their knowledge base

Critical Thinkers

1. Effectively analyze and articulate sound opinions on a variety of complex concepts
2. Illustrate a variety of problem-solving strategies that strengthen college preparation and workforce readiness
3. Formulate a framework for applying a variety of technology and internet-based research to enhance information literacy and collaborative thinking

Effective Communicators

1. Demonstrate awareness and sensitivity to tone and voice in multiple forms of communication
2. Express concepts and ideas in a variety of forms
3. Enhance communiccation skills through the use of media rich or other technology resources

Global Citizens

1. Appreciate the value of diversity
2. Understand the range of local and international issues facing today's global community
3. Demonstrate awareness of the importance of cultural sensitivity and social responsibility in the 21st century

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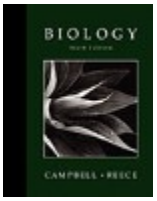

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