

Biology

Holton High School Science Department
2008-09 Course Syllabus

Instructor – Mr. Brad Weilert

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Text - Biology from Glencoe Publishers

Biology Course Description – This Soph level course deals with the study of life from the single-celled organisms to the larger and more complex multicellular individuals. Areas of specific study will include the scientific method, chemistry of life, cells, respiration and photosynthesis, ecology, behavior, classification, evolution, structural systems, microbiology, genetics and other.

Electronic Resources - Electronic resources to supplement student learning in this course is available on the “Holton Learning Center” (Moodle). There is a moodle course available for both the 1st and 2nd semester. Each course contains: Link to the study resources, vocabulary, and practice tests available on the Glencoe website; link to quia.com where tests, quizzes, and study activities will be used; link to class assignments/calendar on iCal; link to power points and online videos used for the course; links to websites to connect to real life examples or additional study resources; and RSS feeds from Scientific American with current science events. Electronic text and resources are also on student computers. These resources give student many options to study, prepare, and be successful in this course.

Grading Policies - Tests – 44%, Classroom/Labs – 44%, Semester Final – 12%,

Category Explanation:

Tests Category – Tests & Quizzes are included in this category. Most tests & quizzes will be given online on quia.com. Tests will be given closed book without notes. Quizzes may vary in structure.

Classroom/Labs Category – Any classroom study guides, online worksheets, daily points, bell work, and other classroom activities will be included in this category.

Semester Final Category – The semester final will be a comprehensive assessment of the student’s learning of stated outcomes from the entire semester.

Latework – Full credit will be given to work handed in within two class periods for every one missed. (50% within one week and 25% after that) It is STUDENT responsibility to get ALL missed work from me when I am not teaching class or by email or ical. ALL work will be turned in by end of semester. NO NHI’s or BASS will be utilized. BASS is also assigned to any student with a failing grade in Biology during the semester until grade is raised to passing.

Suggestions for Success in this Course – Students are expected to conduct themselves in class as responsible, respectful and mature people. Always feel free to ask questions and to communicate any problems with me as soon as possible. The best rule to follow is..... “if you are unsure, ASK.”

Good communication is very important in education. Students should bring to class: textbook, writing utensils, notebook/computer, any due homework and a good attitude. **DO NOT** rely on extra credit for a grade. Safety is a top priority in the science lab and classroom so be sure to pay attention and follow directions.

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1st Semester

- Chapter 1 – The Study of Life (3.6.1, 3.7.2, 1.1.2)
 - *Lab - Living/Non-Living*
 - *Lab – Scientific Investigation*
- Chapter's 2, 3 – Principles of Ecology (3.5.2, 3.4.1)
 - Major outcomes summarized from the two chapters.
 - *Lab – Energy Flow*
 - *Lab – BioLab Chp2 – Explore Habitat Size and Species Diversity*
- Chapter's 4, 5 – Population Ecology, Biodiversity (3.3.4, 3.4.3, 6.3.1, 3.3.3)
 - Major outcomes summarized from the two chapters.
 - *Lab – Population/Limiting Factors*
- Chapter 6 – Chemistry in Biology (2A1.1, 2A2.2, 2A2.3)
 - *Lab – Atoms and Compounds*
 - *Lab – Mixtures and Solutions*
- Chapter 7 – Cellular Structure and Function
 - *Lab – Using a Microscope*
 - *Lab – Cell Organelles*
 - *Lab – Wet Mount Slide*
- Chapter 8 – Cellular Energy (2A2.3, 3.1.2, 3.5.2, 3.5.3, 2A3.1)
 - *Lab – ATP/ADP*
 - *Lab – Photo/Respiration*
- Chapter 9 – Cellular Reproduction
 - *Lab – Mitosis/Cell Cycle Poster*
 - *Lab – Onion Root Tip Mitosis Slides*
- Chapter 10 – Sexual Reproduction and Genetics (3.2.3)
 - *Lab – DNA Crochet*
 - *Lab – Meiosis*
 - *Lab – Probabilities/Punnet Squares*

2nd Semester

- Chapter 11 – Complex Inheritance and Human Heredity
 - *Lab – Family Pedigree*
 - *Lab – Inheritance*
- Chapter 12 – Molecular Genetics (3.2.1)
 - *Lab – DNA Dance and/or Puzzle*
 - *Lab- DNA Extraction*
- Chapter 13 – Genetics and Biotechnology (1.1.3, 5.1.1)
 - *Lab – Biotechnology Video*
- Chapter 14 – Fossil Evidence of Change (4.2.1)
 - *Lab - Fossil Exploration & Graphing*
 - *Lab – Carbon Dating*
- Chapter 15 – Evolution (3.3.4, 3.3.1)
 - *Lab – Species/Natural Selection*
- Chapter 17 – Organizing Life's History (3.3.3, 3.7.3)
 - *Lab – Taxonomy*
- Chapter's 18, 19, 20, 21, 24 – The Kingdoms
 - *Lab – Bacterial Plates*
 - *Lab – Protist Lab (observation)*
 - *Lab – Fungi Lab*
 - *Lab – Plant Lab*
 - *Lab – Animal Lab*
- Chapter 31 – Animal Behavior (3.6.1)
 - *Lab – Stimulus/Response*
- State Assessment in Life Science
 - Review and Test
- Chapter's 22-23 - Introduction to Plants
 - Abbreviated summary of the 3 chapters with the main concepts necessary from the plant kingdom.
 - *Lab – Transpiration Lab*
 - *Lab – Plant Dissection*
- Chapter's 32-37 – Animals Systems
 - Focus on each major animal system. – Circulatory, Nervous, Respiratory, Reproductive, Etc.
 - *Lab – Animal Dissection*

