

Biology Student Syllabus

Mr. Thomas Schulz
2011 - 2012 School Year

Text: Biology, Glencoe Science, Mc-Graw Hill Companies, Inc. 2007

Purpose:

The purpose of this course is to help the student understand, appreciate, and utilize God's living creation of organisms, including plants, animals, and man to glorify His name. Students will do this by making god-pleasing decisions that will benefit the environment and the organisms He created, as well as the spiritual, moral, and physical welfare of all people on earth. As the students learn about how incredibly complex life is and how God designed and ordered it and how it works, they will come to know the importance of their humble, yet awesome place and role as active caretakers and stewards of the earth.

Course Materials: Please bring the following items to class each day.

- Notebook or loose-leaf paper
- Pen or Pencil
- Highlighter
- Student Planner
- Your textbook

In addition, a pocket folder or binder will be useful for keeping handouts, worksheets, and returned quizzes and tests.

Classroom Expectations: What are your goals in life? How do you plan on accomplishing them? My expectations are that you will want to be smarter tomorrow than you are today. I will be helping you to do that, but we need to work together. First and foremost, appreciate your capabilities as gifts from God. Second, be a high performer – do not settle for just getting by. I have high expectations for each of you. This is how we will do this as a team:

1. TO GOD BE THE GLORY! That means, do everything with God at your side.
2. RESPECT – your classmates, your teacher, your Savior at all times. I will treat you as the Christian person that you are; I expect you to conduct yourselves as such. So, be non-selfish, listen, observe, participate, arrive on time, be an active learner physically and emotionally each and every day.
3. NO SHORTCUTS! When things get tough and you have lots of homework and lots of vocabulary, and it is difficult to understand biology, it would be great if there was an 'Easy' button to press and make it go away, but there isn't. Sorry. Just do the work! Please ask if you need any help.
4. NO EXCUSES! Rather, be a solution finder.
5. Other Rules – have a fun time, but understand the limits so no one is kept from 42 minutes of daily learning and so that we have orderliness in our classroom:
 - Do not be disruptive or disrespectful to me or to your fellow classmates.
 - No eating, drinking, or potty breaks; if you must chew gum, then it needs to be as a human being and no one around you should be aware of it, especially me.
 - Stay in your seats unless told otherwise.
 - Abide by all lab safety rules at all times.

Tardiness: Biology class begins when the tone finishes its sound. I expect that by that time, you will already be in your seats, have your materials ready to go, and be ready to participate in your education. Refer to the student handbook (your planner) for information about consequences.

Grading and Assessments: A variety of assessments will be given to evaluate your learning. The kinds of assessments will be tests, quizzes, lab reports, homework, and class and group participation. Throughout the year, you will have the opportunity to work on several large projects, either individually or with a small group. These projects will involve things like research, writing reports, getting into nature, oral presentations for the class, and posters. Plan on at least one major project per quarter.

Your grade will be determined on the number of points you achieve for each activity or assessment. Numerical scores will indicate the number correct out of the total number possible. You are expected to complete all assignments on time. **“On time” means at the beginning of the class on the day that the assignment is due.** The highest possible grade for a late assignment will be fifty percent of the total possible. You will receive a ‘0’ for any work that is not turned in.

Absences: For excused absences, you have 1 day for each missed day to make up the work. For example, if you are absent on Tuesday, the assignment originally due that day becomes due on Wednesday. Work assigned on that Tuesday would become due on Thursday. If there is a test scheduled for the day that you are absent, you will take the test within 3 school days of the day you return. **You are responsible for turning in work, for getting missed assignments, and for reminding me of your absences on the day of your return.**

Extra Credit: You are expected to learn the regular material presented during class and extra work is just that - extra, over and above the normal workload. I do not normally have extra credit projects available – please learn the regular daily work and do your best with that.

Cheating: Cheating (both giving and receiving) and plagiarism are not tolerated and are subject to disciplinary action. Refer to the Student Planner for more information and consequences.

Grading Percentages by Assessment type:

Tests.....	35%
Projects	25%
Lab Reports	20%
Quizzes	10%
Homework and Participation.....	10%

Bibliographies and References: You will provide a bibliography for all papers, labs, and projects that require resources and information from sources other than your own original knowledge. Use Writer’s Inc. pages 255 - 274 for information on research writing, and what to provide and how to format a Bibliography. I prefer the MLA style. For books, you need author(s), title, city of publication, publisher, and date. For websites, find the author, title of

paper, date, sponsor, date you accessed the site, and the complete web address. Sometimes it takes some digging to get all this information - remember, no shortcuts. For website entries, when certain items do not apply or are not available, skip those and go on to the next item. Google, Bing, Yahoo, or any other search engine is not a reference. You will NOT be allowed to use Wikipedia since the sources are unchecked (colleges do not accept this site)! Word 2010, the version available in the Steward's Lab, will assist in building a complete bibliography.

Two examples for you are our textbook and information from a website.

Example References:

Biggs, Alton, et al. Biology. Columbus, OH: McGraw-Hill Companies, Inc., 2007.

Wisconsin. The Natural Heritage Inventory Working List: Wisconsin's Extirpated Species. January 2004. Department of Natural Resources. October 21, 2005.
<http://www.dnr.state.wi.us/org/land/er/working_list/taxalists/extirpated.htm>.

Course Outline: We will study the following units, but perhaps not in the order listed. The time frame of each unit may vary somewhat, but we will attempt to complete everything shown here. Generally, we will have tests at the conclusion of a Chapter or couple of Chapters rather than Unit tests. There will be a major exam in December covering material from the first day of class to that time. The major exam at the end of the school year will cover material from only the second semester.

Note: Information and a password for accessing an online textbook will be given to students during the first week of classes.

Unit 1: In the Beginning

Textbook: pp. xxxii - xxxv, 2 - 143, 388 - 511, and 1114 - 1125; 6 - 7 weeks
Biology basics, Scientific Method, Lab Safety, Ecology, God's Creation, Evolution, Classification, Nature/ecology Project.

Unit 2: The Building Blocks of Life

Textbook: pp. xxxvi - xl, 144 - 274, and 1124 - 1126; 7 - 8 weeks
Microscopy, Organic Chemistry, Cell Chemistry, Cells and Structures, ATP, Photosynthesis, Respiration (cell energy), Cellular Reproduction.

Unit 3: After its Kind

Textbook: pp. 277 - 387; 5 - 6 weeks
Mendel, DNA/RNA, Genetics, Heredity, Human Genome Project, Genetic Engineering, Family Pedigree Project, DNA Pioneers Research Paper.

***Unit 4: Bacteria, Viruses, Protists, and Fungi**

Textbook: pp. 512 - 599; 1 - 2 weeks
Viruses, Bacteria, Protists, Fungi – their economic importance and impacts on other organisms and humans.

*Note: Unit 4 will be done as time permits.

Unit 5: The Plant Kingdom*Textbook:* pp. 600 - 687; 2 - 3 weeks

Vascular, Nonvascular, and Seedless plants, Plant Structures, Flowers, Plant lab.

Unit 6: The Animal Kingdom*Textbook:* pp. 688 - 931; 2 - 3 weeks

Animal Characteristics, Invertebrates, Vertebrates, Worm Dissection, Field Trip, Animal Project.

Unit 7: Human Biology*Textbook:* pp. 932 - 1045; 7 - 8 weeks

Skeletal, Muscular, Integumentary, Digestive, Respiratory, Circulatory, Excretory, Nervous Systems, Rat Dissection.

Course Outcomes: By the end of the year the student will:

- Apply the principles of the scientific method to problems dealing with the living world;
- Examine the creation / evolution / intelligent design controversy and present arguments in favor of creation that are based on both science and Scripture;
- Describe the places where organisms live, their interactions with their environment, factors that influence their environment, and factors that influence or control their populations;
- Examine a cell, identifying its parts and functions to appraise its importance as the basic unit of life;
- Learn the parts of a microscope, how it works, and examine and illustrate the detailed design of biological structures;
- Discover biochemistry as an integral basis for life functions and metabolism;
- Understand the interrelationships between cellular respiration and photosynthesis and how each is responsible for producing energy for all organisms.
- Apply principles of genetics to the continuity and diversity of God-given life, seeing how each of us has been uniquely woven according to God's plan;
- Assess current scientific discoveries in light of science, Christian ethics, and Scripture;
- Utilize the principles of classification as a tool to organize living organisms;
- Compare and contrast the diversity of structures, characteristics, economic influences, ecology, and habitats of viruses and bacteria, fungi, plants, protists, and animals;
- Grow plants from seed, observing the complete life cycle of a plant and comparing effects of different variables by graphing and reporting results;
- Differentiate between the biological processes that illustrate a linear flow of energy and a cyclical flow of matter;
- Incorporate knowledge about life processes and nutritional needs for growing and living through the study of human anatomy and physiology; and
- Be able to give praise and thanks to God for the gifts and abilities with which each person has been blessed, using these gifts in growing faith, and serving in personal ministry.

Questions: I am available for assistance outside of class. If there are any questions about the course, or if you don't understand something, you or your parents are urged to call me at (414) 453-4567, ext. 2221. Also, I may be reached at home before 10 pm at (414) 463-2478.

I have a page on the WLHS Science Department website. Assignments and daily topics may be viewed or printed from this site. The web address is: <<http://schulz.wiscoscience.com/>>.

You may also contact me with email at: tom.schulz@wlhs.org

The PASS system will typically be updated once per week.