

Welcome to Ms. White's
Biology Class
Room 107
Email: wwhite@northlandprep.org

"Science is a way of thinking much more than it is a body of knowledge."

- Carl Sagan

Course Philosophy:

Today, understanding the concepts of Biology and their connections to our lives is more important than ever. Whether we are concerned with our own health or the health of our planet, a familiarity with biology is essential. This basic knowledge and appreciation for how science works have become elements of good citizenship in an era when informed evaluations of health issues, environmental problems and applications of new technology are critical.

Course Description:

Biology is the study of life and living organisms. This course is designed to give a basic understanding of living organisms and how they function. Biology is a "hands-on" course, so while lecture and discussion will be a part of this course, we will be performing many labs and inquiries in order to look at biological processes in an experiential way. Self-motivation, group and individual participation, and ability to accurately record laboratory observations and draw reasonable conclusions is required for student success in Biology. The units are planned with an effort to stimulate a genuine interest in the sciences and to draw attention to the nature and history of science as it relates to biological topics.

Class Meetings:

Something significant happens every day in Biology class! Please make every effort to be present and on time for our class. Hopefully, you will enjoy the hands-on/minds-on approach to learning Biology. There will be daily warm ups, general presentations, short lectures, fascinating discussions, and extensive laboratory activities.

Textbook and Materials:

1. Biology: An Ecological Approach
2. Laboratory and Study Handouts
3. Selected References in Biology
3. Film segments and other audio visual aids
4. Purchases:
 - a. 3-ring binder
 - b. loose leaf paper
 - c. 1 college ruled spiral notebooks
 - d. pens/pencils
 - e. 5 dividers

Goals/Course Expectations:

When the student has completed the course fulfilling all requirements, he/she will:

- Experience stimulating and challenging opportunities for scientific study and creativity within global contexts.
- Obtain a body of knowledge and methods/techniques, which characterize science and technology.
- Develop an ability to analyze, evaluate and synthesize scientific information
- Develop an ability to effectively collaborate and communicate within a group for scientific activities.
- Develop experimental and investigative scientific skills.
- Raise awareness of the moral/ethical, social, economic, and environmental implications of using science and technology.
- Develop an appreciation of possibilities and limitations associations with science and scientists.

In order to accomplish the general objectives of this course, students will participate in the following activities:

1. Read assigned selections of the textbook, laboratory handouts and assigned readings, and complete assignments relevant to these concepts.
2. Complete homework assignments independently and accurately.
3. View slides and clips illustrating important biological ideas.
4. Participate, individually and as part of student teams, in biological investigations (labs).
5. Participate in small group and class discussions during which he/she may develop and express his/her understanding of biological ideas.
6. Prepare for and complete unit tests successfully.
7. Prepare for and complete semester exams.

Course Outline: (37 total weeks)

1. The Nature of Science
 - a. How Science Works
 - b. Science of Biology
2. Cells
 - a. Cell Biology
 - b. Cell Energy
 - c. Cell Reproduction
3. Heredity
 - a. Probability and Mendelian Genetics
 - b. DNA
 - c. RNA and Protein Synthesis
 - d. Genetic Engineering
4. Exploring Diversity
 - a. Classification and the Kingdoms of Life
 - b. Viruses and Bacteria

- c. Protists and Fungi
- 5. Exploring Plants
 - a. Plant Reproduction
 - b. Plant Structure and Function
 - c. Plant Growth and Development
- 6. Ecology
 - a. Energy in Ecosystems
 - b. Populations
 - c. Interdependence in Ecosystems
- 7. Evolution
 - a. Acquired and Inherited Traits
 - b. Darwin and Lamarck
 - c. Natural Selection
- 8. Exploring Human Biology*
 - a. Introduction to Body Structure
 - b. Circulatory and Respiratory Systems
 - c. Digestive and Excretory Systems
 - d. Nervous System

*May not get to these topics

Grades:

Grades will be determined by total points each Semester, in line with the required school district policy.

A	90-100	Daily Points:	5 – 50 points
B	80-89	Tests/Quizzes:	10 – 100 points
C	70-79	Science Binder:	100 points
D	60-69		
F	below 60		