

# Biology

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**2011-2012**

## Course Description:

Biology is a high school level class. Students are expected to have had some previous experience in the study of life science. The content focuses on topics relating to cell biology, genetics, evolution, zoology, botany, physiology, and ecology. The course is structured to enable students to master the appropriate science content standards and stimulate curiosity about the natural world. The course consists of both lecture and laboratory experiences that are integrated into the course to enhance student comprehension of the topics covered. These laboratory experiences are designed to facilitate the development of skills in planning and designing, predicting, recording data, data analysis, evaluation, and application; and lead to inquiry and problem solving.

<b>Day/Time:</b>	Lecture	Tuesday	10:10 – 11:10
		Wednesday	10:10 – 11:10
	Lab	Tuesday	11:20 – 12:40

<b>Location:</b>	Lecture	Eureka
	Lab	Eureka

**Textbook:** Glencoe Biology – Dynamics of Life (©2002. Glencoe/McGraw-Hill Companies, Inc.)  
Biology Student Syllabus (provided)

**Credits:** Students will receive 10 credits (lecture and lab) for satisfactory completion of work. Students are expected to complete 8 hours of course work outside of class time each week.

## Expectations:

- Regular attendance - **ON TIME – Student missing more than 3 class periods will be dropped from the class, unless arrangements have been made**
- Demonstrate **PERSONAL RESPONSIBILITY, SELF-DISCIPLINE, and A POSITIVE ATTITUDE** at all times.
- Honesty in all class work - Dishonesty in any assignment will result in no **CREDIT FOR THE ASSIGNMENT**. A student who is repeatedly found cheating will be **DROPPED FROM THE CLASS WITH NO CREDIT FOR THE COURSE**.
- Personal responsibility for your grade – **Responsible people don't make excuses**.
- Cell phones, iPods, or similar electronic devices are not allowed during class time.
- **BE PREPARED!** Teacher will not provide school supplies
- **NO ASSIGNMENTS TURNED IN = NO GRADE = NO CREDIT**

## Grade Components:

- **Attendance** – 2 or more absences/tardies will result in grade reduction.
- **Participation** – Students are expected to actively participate in all class activities
- **Class Activity** – Class activities and related work must be turned in.
- **Labs** - In-class labs are included in the course. **Labs cannot be made up.**
- **Quizzes & Tests** – Periodic quizzes and tests will be administered.

## Grading Criteria:

- 15% Attendance – **ON TIME**
- 15% Participation – **STUDENT BEHAVIOR AND ALL MATERIALS BROUGHT TO CLASS**
- 55% Class Activities and Labs – **½ CREDIT FOR LATE WORK**
- 15% Quizzes and Tests

*"The scientist does not study nature because it is useful; he studies it because he delights in it, and he delights in it because it is beautiful. If nature were not beautiful, it would not be worth knowing, and if nature were not worth knowing, life would not be worth living."* - Henri Poincaré.

# Why is the study of science important?

Many people wonder why the study of science is important. Below are the most popular answers to this question as compiled by Yahoo.com.

By studying science you could have a fascinating and crucial role to play by:

- Designing realistic alternative energy sources
- Developing new modes of communication
- Helping people to live more sustainably
- Producing safe, environmentally friendly and healthy products, from airplanes to chocolate bars
- Working with farmers to improve crop production
- Protecting the environment and combating the effects of climate change by reducing carbon dioxide emissions and limiting global warming
- Finding alternative methods for supplying clean water
- Discovering new medicines and vaccines for treating killer diseases, techniques for surgery or gene therapy

In the May, 1997 issue of Discover, Jared Diamond suggested five reasons why it is so important for the public (that's YOU!) to understand science.

1. Science isn't something arcane, intended only for the few. Every one of us, whether a poet, janitor, or nuclear physicist, has to be able to think scientifically, and to understand some science, to get through with our lives. Every day we face decisions that hinge on science, such as whether to smoke, what to eat, with whom to have sex, and what protection to use (if any). Even for decisions that don't depend on specific scientific facts, science remains the proven set of best methods for acquiring accurate information about the world.

2. Some of you will end up as policy-makers in government or business. Individuals such as these make decisions that fundamentally affect the well-being of everyone, and most of them know no more about science than does the rest of the general public. Yet they are called upon to decide what to do about (and how much money to spend on) nuclear reactors, global warming, environmental toxins, expensive space programs, biomedical research, and applications of biotechnology. It's nonscientists, not scientists, who have the last word on whether the milk we drink can safely come from cows treated with hormones. To make such decisions wisely, the decision makers have to be drawn from a scientifically educated public.

3. As voters, we all bear the ultimate responsibility for those decisions, because we are the ones who decide which candidates and which ballot measures will prevail. We need enough sense about science to select the decision makers who will make good choices when faced with scientific questions.

4. Even if science were irrelevant to the lives of ordinary Americans, a strong scientific enterprise is essential to our economy, educational system, and society. That requires lots of young people to become excited enough by science that they resolve to become professional scientists. This requires, to some extent, the nurturing support and understanding of the general public.

5. Scientists are not always able to communicate their findings in an easy to understand manner. Although the scientific community should do a better job of explaining what they have discovered, members of the general public have to expend some energy in making an attempt to understand what is being said. Familiarity with the vernacular of science, knowledge of some of the basic principles, and confidence in one's ability to fit the new findings into one's ever-expanding lode of scientific knowledge are valuable qualities of an informed citizen.

# Science Classroom & Lab Safety Contract

Science is a hands-on laboratory class. Students will be doing laboratory activities that may require the use of chemicals, laboratory equipment, and other items which, if used incorrectly, can be hazardous. Safety in the science classroom is the Number 1 priority. To ensure a safe science classroom, a list of rules has been developed and provided to you in this student safety contract.

## ATTITUDE

- The science lab is used for serious work. **ABSOLUTELY NO FOOLING AROUND.**
- **NEVER** perform any unauthorized experiment.
- During the lab:
  - **NO FOOD OR DRINK.**
  - **NEVER TASTE ANYTHING** unless specifically directed to do so.
  - **NEVER SMELL ANYTHING DIRECTLY**, waft its vapors toward you.
  - **WATCH WHERE YOU ARE GOING.**
  - **DON'T PUT YOUR HANDS IN OR NEAR YOUR MOUTH.**
  - **DON'T PUT YOUR HANDS IN OR NEAR YOUR EYES.**
  - **RINSE OFF ANY SPILLS ON YOU OR YOUR LAB STATION.**
  - **USE THE CORRECT EQUIPMENT.**
- Following the lab:
  - Wash and dry off glassware.
  - Put all equipment away.
  - Wipe off surfaces.
  - Discard chemicals in the correct waste containers.
  - Wash hands.
- **ALWAYS REPORT** any accident, injury, or incorrect procedure.

## ATTIRE

- Do not wear loose or synthetic clothing.
- **Wear safety goggles and other safety equipment when any lab calls for using chemicals.**
- Tie long hair back.

## HANDLING CHEMICALS

- Read labels on reagent containers carefully.
- Avoid contaminating chemicals. **Do not return unused chemicals to bottles, insert your pipette into a bottle, or lay the stopper of a bottle down.**
- Always add acid **SLOWLY** to water when mixing acid solutions.
- Keep combustible materials away from open flames.

## FIRST AID IN THE SCIENCE CLASSROOM

Injury	Safe response
Burns	Apply cold water. Call your teacher immediately.
Cuts and bruises	Stop any bleeding by applying direct pressure. Cover cuts with a clean dressing. Apply cold compresses to bruises. Call your teacher immediately.
Fainting	Leave the person lying down. Loosen any tight clothing and keep crowds away. Call your teacher immediately.
Foreign matter in eye	Flush with plenty of water. Use an eyewash bottle or fountain.
Poisoning	Note the suspected poisoning agent and call your teacher immediately.
Any spills on skin	Flush with large amounts of water or use safety shower. Call your teacher immediately.

I have read and understand the safety rules and first aid information listed above. I recognize my responsibility and pledge to observe all safety rules in the science classroom at all times.

Student signature \_\_\_\_\_

Date \_\_\_\_\_

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## General Policies

- The food and drink are not allowed in class.
- Electronic games, iPods, and cell phones are to be turned off during class time.
- Office, computer, cabinets and displays are **OFF LIMITS**.
- In order for assignments to receive full credit the following guidelines must be followed:
  - Assignment must have the following information written on the paper in the upper **RIGHT** corner to be accepted
    - Student name (first name and last name initial)
    - Date
    - Subject
    - Assignment description – page number (unless it is already pre-printed)
    - Name of assigned teacher
  - Assignments are to be completed on **3-HOLE 8 ½" X 11" LINED BINDER PAPER** unless otherwise specified.
  - Assignments must be completed **NEATLY**.
- Book bags and/or backpacks are not to be on desktops or block walkways or aisles.
- Textbooks that are lost or damaged will be charged to the student's account.
- Dishonesty in any assignment will result in no **CREDIT FOR THE ASSIGNMENT**. A student who is repeatedly found cheating will be **DROPPED FROM THE CLASS WITH NO CREDIT FOR THE COURSE**.
- Assignments missed due to absence must be made up in order for credit to be given.
- Grade categories:

A = 93% – 100%	B- = 80% – 82%	D+ = 60% – 64%
A- = 90% – 92%	C+ = 77% – 79%	D = 53% – 59%
B+ = 88% – 89%	C = 68% – 76%	D- = 50% – 52%
B = 83% – 87%	C- = 65% – 67%	F = 0% – 49%

I agree and understand the class policies this class syllabus and agree to abide by them.

Student Signature \_\_\_\_\_

Date \_\_\_\_\_