AP Biology – Dr. E

**Course Description**

AP Biology is equivalent to a full year of college biology, prepares students for the national AP exam, uses a college text, and requires college level skills. Laboratory work is essential and requires additional student time. Required topics are cell biology, genetics, mitosis and meiosis, photosynthesis and respiration, diversity of life, ecology and evolution, and physiology of human systems.  This course is a UC Certified Lab Science.  Homework level is Intense.

[**Pacing Guide**](http://home.lcusd.net/lchs/mewoldsen/APBiology/APBiologyPacingGuide.doc)

**Cheating**

See [School Policy](http://www.lcusd.net/cms/lib04/CA01000868/Centricity/Domain/230/Mandatory%207-2014-2015%20Academic%20Honesty%20Policy%20Final.pdf)

## Letter Grade Policy

A separate total will be kept for Formative material (Homework/Quizzes/Lab Reports – 20%), and Summative material (Chapter tests and review tests – 80%).  **Grades** **will not be rounded up**.  Students receiving a semester grade below C will be advised to drop the class. There will not be any dropped tests.

### Grades will be posted in Illuminate and updated at least every two weeks.

|  |  |  |
| --- | --- | --- |
| A | 90 | 100 |
| B | 80 | 89.9 |
| C | 70 | 79.9 |
| D | 60 | 69.9 |
| F | 0 | 59.9 |

### Tests

Tests will examine your ability to recall information and apply the knowledge. If you miss a test due to an excused absence, you must see me on the day you return.  Tests may NOT be taken home, and therefore you may not to do test corrections.

**Sample Multiple-Choice Question**

Two flasks with identical medium containing nutrients and glucose are inoculated with yeast cells that are capable of both anaerobic and aerobic respiration. Culture 1 is then sealed to prevent fresh air from reaching the culture; culture 2 is loosely capped to permit air to reach the culture. Both flasks are periodically shaken.

*Which of the following best* **predicts** *which culture will contain more yeast cells after one week, and most accurately* **justifies** *that prediction?*

1. Culture 1, because fresh air is toxic to yeast cells and will inhibit their growth
2. Culture 1, because fermentation is a more efficient metabolic process than cellular respiration
3. Culture 2, because fresh air provides essential nitrogen nutrients to the culture
4. Culture 2, because oxidative cellular respiration is a more efficient metabolic process than fermentation.

**Sample Grid-In Question**

The data below demonstrate the frequency of tasters and non-tasters in an isolated population at Hardy-Weinberg equilibrium. The allele for non-tasters is recessive.

*How many of the tasters in the population are heterozygous for tasting?*

|  |  |
| --- | --- |
| Tasters  | Non-Tasters  |
| 8235  | 4328  |

**Sample Short Free-Response Question**

The role of tRNA in the process of translation was investigated by the addition of tRNA

with attached radioactive leucine to an in vitro translation system that included mRNA

and ribosomes. The results are shown by the graph. *In a* **short paragraph,** *describe how*

*this figure justifies the claim that the role of tRNA is to carry amino acids that are then transferred from the tRNA to growing polypeptide chains*.

**Homework/Quizzes/Labs**

No homework will be accepted late except for excused absences and then within the same number of days you were absent *plus one*.  Quizzes will be used to help prepare you for the tests. Remember that notes may be used on the quizzes.

Lab Reports are based on a 20-point scale and **are due the day after the lab is completed**. No lab reports will be accepted late. If you are absent on the day of a lab, you may be asked to write a report on the concept if the lab has been taken down. Failure to observe any of the safety procedures will result in the loss of lab credit and removal from the room.

**Study Tips**

 It is essential that you do all the work and reading.  It is essential that you take notes from the textbook and the lectures.  Make sure that you develop a thorough understanding of the proper uses of the Internet. If you need additional help use the links and review pages from the textbook linked to the website.

**Extra Help**

I will be available to help during STEP and there will be a STEP for APES and AP Biology.

#### LAB SAFETY POLICY OF SCIENCE STUDENTS

While working in the laboratory, you will have important responsibilities that do not apply to other classrooms.  You will be working with materials and apparatus that, if handled carelessly or improperly, have the potential to cause pain serious injury or death. A science laboratory can be a save place to work, if you are alert, cautious, and follow directions with care.  The following practices should be studied

* **Laboratory Preparation** – Read the procedure and complete the pre-lab assignment before coming to class.  Follow the directions precisely (but paraphrase them) and make note of any changes in procedure given.
* **Eye Protection** – Wear safety goggles at all times when doing an experiment involving chemicals.  If a chemical splashes into your eye, use the wash fountain by irrigating your eye continuously for 15 minutes.  Notify me immediately.  Never direct water from the faucet into the eye as the high pressure may cause more damage.
* **Conditions of Work Area** – You should maintain a work area that is free of books, coats, book bags, chemical spills, excess chemicals, and trash.  No objects should be on the floor as this may cause someone to trip and fall. Cleanup spills immediately.
* **Disposal of Waste Material** – Waste paper, towels, and other trash must be discarded in the wastebaskets; waste chemicals in the labeled waste containers.  Do not throw matches into wastebaskets except after running water over them.
* **Chemical Spills on Your Body** – A safety shower is located in the laboratory and should only be used to wash chemicals from your body if the sink is not sufficient.  Contaminated clothing should be removed as soon as possible.
* **Fire on You or Your Lab Partner** – STOP, DROP AND ROLL. Someone should immediately retrieve a fire blanket to roll in.  Never wrap a fire blanket around someone who is standing up, as this will cause the fire to rise to the head and chest area. If you are near the safety shower, get under it instead.
* **Fire in the Laboratory** – Notify the teacher immediately if any smoke or fire is seen and then follow their instructions.
* **Accident Reports** – Report any accident to the teacher immediately, no matter how minor.  This includes any burn, scratch, cut or contact with corrosive liquid (acid or base).  Also report any defective or broken equipment and other potential dangers at once.  But most important remember to stay calm.
* **Safety Stations** – Know the location of emergency shower, eye wash fountain, fire extinguisher, safety goggle storage, and exits.
* **Hair** – Confine long hair with a band, hairpins or a hairnet.
* **Eating and Drinking – Since there is a possibility of food substances becoming contaminated, no eating or drinking is allowed in the laboratory.**
* **Laboratory Conduct** – Be courteous and exercise common sense.  There will be no practical-joking, pushing or horse-play.
* **Hands** – Wash your hands in the sink before you leave the lab.  Avoid touching your eyes and face.

Approved by Mr. James Cartnal