Biology 30 Course Outline

# Block 1. Ms. Redding, Room 213

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My goal is to create a safe, engaging environment where students can take risks, grow and develop the necessary confidence to overcome obstacles and challenges. These expectations and routines are in place in order to help every student in the classroom succeed in this course. If I am concerned about your success in any way, I may contact your parents/guardians and/or the administration for further support.

**Classroom Expectations and Routines**

Absences: You are expected to take an active part in your schooling. For this reason, you are responsible for finding out about missed assignments as well as what went on in class while you were absent. You will absolutely not be hunted down over missed work! This includes information about exams and quizzes. The excuse “I wasn’t here so I didn’t know”, has no validity in this classroom. Finally, class time will not be used to catch you up in any way.

Eating/drinking: Any food or drink brought to class must not be disruptive and must be cleaned up after. Abuse of this guideline will result in the privilege being taken away. No food or drink is allowed during labs.

Late for class: Please be on time as it is disruptive for the class if you are late. If you are late please enter the classroom quietly.

Leaving class: Please ask me for permission should you need to leave class. To further avoid disruption, I ask that only one student be out at a time, so please be considerate of others and keep your breaks short. Abusing a break (ex. wandering the halls/hanging out) will result in the loss of this privilege. If you need to leave class early for other commitments please let me know ahead of time.

Cell phones: Please no cell phone use during class. Phones should be turned off and kept out of sight at all times.

Laptops/iPods/MP3 players: These devices are permitted only during seat work (not during lesson time). Electronic devices of any type are prohibited in any examination (including quizzes).

Be respectful to everyone in the classroom: That includes listening while others are speaking, respecting other’s property and use of appropriate language (ex. no swearing).

**Unit A: Nervous and Endocrine Systems**

**Themes:** Equilibrium and Systems

**Overview:** This unit examines the biological processes that mediate the interactions between humans and their environment to maintain equilibrium. The nervous system contributes to homeostasis through its response to internal and external stimuli. Endocrine glands help to maintain homeostasis through the hormones they release into the blood. A study of the interactions between the nervous and endocrine systems leads to an examination of the functioning of the central and peripheral nervous systems and their ability to sense the environment and respond to it.

**Unit B: Reproduction and Development**

**Themes:** Change and Systems

**Overview:** This unit investigates the human reproductive system as a representative mammalian system responsible for propagating the organism and perpetuating the species. The processes associated with human reproduction and developments, as well as the regulation of these processes by hormones, are reviewed. The influence of environmental factors on embryonic and fetal development is examined, as are various reproductive technologies.

**Unit C: Cell Division, Genetics and Molecular Biology**

**Themes:** Change and Diversity

**Overview:** This unit examines the two types of cell division, mitosis and meiosis. Students learn about chromosomal behaviour during cell division and expand their knowledge of chromosomes by studying classical genetics. Classical genetics is further extended to a molecular level by exploring the basic structure of deoxyribonucleic acid (DNA), its role in protein synthesis and the impact of mutation.

**Unit D: Population and Community Dynamics**

**Themes:** Systems, Equilibrium and Change

**Overview:** Population change over time can be examined through a study of population genetics (Hardy-Weinberg principle) and population growth. Both of these can be expressed quantitatively. Individual members of populations interact with each other as well as with members of other populations, which can have an impact on the populations involved. Communities are a sum of all the different populations living together. Communities may change over time as a result of natural or artificial events.

**Evaluation/Assessment:**

The course is composed of 4 units. There will be daily formative course work and it is essential that this work is completed to ensure success on summative work.

Students will be evaluated on their summative course work – tests, quizzes, lab reports and Unit Exams.

Biology 30 consists of four units of study:

1. Nervous and Endocrine Systems – 25% of course work
2. Reproduction and Development – 20% of course work
3. Cell Division, Genetics and Molecular Biology – 40% of course work
4. Population and Community Dynamics ­– 15% of course work

Within each unit, 60% of the student’s grade comes from quizzes and assignments; the remaining 40% will come from Unit exams and tests.