**10th Grade LIVING ENVIRONMENT**

**Academic Year 2014-2015**

**Instructor Information**

**Ms. Tom**

Email: Tom@WHSAD.org

**Class time/location:** Period 7, Room 205

**Office hours:** Period 8

**Course website:** www.whsad.org/author/tom

**Course Information**

**Course Summary:** All students are mandated to receive a grade of 65 or above in Living Environment in order to graduate high school. Students are taking this class in order to receive an intensive, single-semester Living Environment review in order to pass the Regents in January. It is our goal that all students registered for this class will receive a 65 or above on the Living Environment Regents this January!

**Topic Overview (subject to change)**

As a student at Williamsburg High School for Architecture and Design you will embark on an in-depth exploration of biology, *the Living Environment*. Biology is the study of life. Biological scientists study life in all of its varied forms, including: what defines life, how living things are organized, how the structures and functions of living organisms help them survive, what processes help to regulate and control vital functions, as well as how researchers understand life based on evolutionary principles. In this class, students will use the scientific method to investigate fundamental principles about the nature of living things. Students can expect to be challenged and enthused while learning about life on Earth!

**0. Introduction to the Regents Examination**

**I. Introduction**

Scientific Method

Characteristics of living things

Tools/techniques for cell study (e.g., microscope)

**II. Chemistry of Life**

Chemical compounds

Properties of H2O

Solutions and suspensions

Acids and bases

Chemistry of carbon

Organic and inorganic compounds

Chemical reactions

Enzyme-substrate complex

**III. Cell Structure & Function**

Cell Theory

Levels of cellular organization

Prokaryotes/eukaryotes

Cell organelles

Movement across the cell membrane

**IV. Cell Growth & Division**

Stages of mitosis/meiosis

Cell cycle regulators

Cancer

**V. Photosynthesis & Cellular Respiration**

Autotrophs/heterotrophs

Structure of the chloroplast

Photosynthesis

Cellular respiration

**VI. Functions and Structures of the Nervous,** **Circulatory & Respiratory Systems**

Coordination of the respiratory and circulatory systems

**VII. Digestive System**

Structure/function of organs

Hormonal regulation

Nutrient absorption

**VIII. Function & Structures of the Excretory System**

Structure/function of organs

**IX. Endocrine & Reproductive Systems**

Endocrine vs. exocrine glands

Hormonal regulation

Feedback Mechanisms

Male vs. female organs

Meiosis

Menstrual cycle

Embryonic development

**X. Functions & Structures of the Immune System**

Non-specific defenses

Specific defenses/antibodies

Types of immunity

Vaccines

AIDS

Cancer

Allergies

**XI. DNA & RNA**

Structure of DNA

DNA replication

Structure of RNA

Transcription

Translation

Mutations

**XII. Genetic Engineering**

Increasing biodiversity

Techniques used to study and manipulate DNA

**XIII. Darwin’s Theory of Evolution**

Evidence of evolution

**XIV. Evolution of Populations**

Types of natural selection

Variations in populations

Speciation

**XV: The Biosphere**

Levels of organization

Ecological flow

Feeding relationships

Ecological pyramids

Nutrient limitation

**XVI: Ecosystems & Community**

Greenhouse Effect

Biotic/abiotic factors

Niche vs. habitat

Ecological succession

Fresh water ecosystems

Marine ecosystem

**XVII: Population**

Characteristics of a population

Population growth

Limiting factors

Human population growth

**XVIII: Humans in Biosphere**

Human activities

Renewable resources

Nonrenewable resources

Threats to biodiversity

Conserving biodiversity

Ozone depletion

Global warming

**Evaluation**

**Assessments: 40%**

Exams, Writing Tasks, Essays, Projects 30%

Quizzes 10%

**Notebook/Daily Student Work: 40%**

Classwork 30%

Homework 10%

**Class Participation: 20%**

**For students who have not completed lab minutes, labs will be graded as EXAMS**

**Classwork Rubric**

Your classwork grade will be based on the following:

**OVERALL NOTEBOOK ORGANIZATION Points \_\_\_\_\_\_\_\_/25**

5 points 0-20% of daily classroom notes are organized to classroom standards

10 points 20-40% of daily classroom notes are organized to classroom standards

15 points 40-60% of daily classroom notes are organized to classroom standards

20 points 60-80% of daily classroom notes are organized to classroom standards

25 points 80-100% of daily classroom notes are organized to classroom standards

**DO NOWS Points \_\_\_\_\_\_\_\_/25**

5 points 0-20% of Do Nows are present and complete

10 points 20-40% of Do Nows are present and complete

15 points 40-60% of Do Nows are present and complete

20 points 60-80% of Do Nows are present and complete

25 points 80-100% of Do Nows are present and complete

**CLASS NOTES Points \_\_\_\_\_\_\_\_/25**

5 points 0-20% of class notes are present, complete and meet classroom standards

10 points 20-40% of class notes are present, complete and meet classroom standards

15 points 40-60% of class notes are present, complete and meet classroom standards

20 points 60-80% of class notes are present, complete and meet classroom standards

25 points 80-100% of class notes are present, complete and meet classroom standards

**COMPLETION OF INDEPENDENT STUDENT TASKS Points \_\_\_\_\_\_\_\_/25**

5 points 0-20% of independent student tasks are present, complete and corrected

10 points 20-40% of independent student tasks are present, complete and corrected

15 points 40-60% of independent student tasks are present, complete and corrected

20 points 60-80% of independent student tasks are present, complete and corrected

25 points 80-100% of independent student tasks are present, complete and corrected

**Total Classwork Points: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/100 total points**

**Participation Rubric**

Your participation grade will be based on the following:

**90-100 points**– Come to class every day, on time, behave properly, always do your work, make an active and meaningful contribution to discussions and activities.

**75-89 points** – Come to class every day, on time, behave properly, always do your work, but don’t actively participate in discussions and activities.

**50-74 points** – Occasional Absence or lateness, inattentive or talking in class, sometimes don’t do your work, have nothing to say when called upon.

**25- 49 points**– Excessive unexcused absence and/or lateness, disruptive behavior in class, rarely or never do your work, never participate, negative or uncaring attitude, immaturity, hostility.

**Total Participation Points: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/100 total points**

**CLASSROOM PROCEDURES**

**BATHROOM**

As stated by school policy, no bathroom passes will be allowed during the first and last ten minutes of any period. If you need to use the restroom, raise your hand. With permission, grab the bathroom pass, sign the bathroom log, and leave the room.

**DISMISSAL**

I dismiss you, **not** the bell! Please remain in your seats until I say you may leave. I will always give you a late pass to your next class if I need to hold you over.

**Class Expectations/RULES**

* Arrive to class on time. Repetitive lateness will result in parent/guardian notification in addition to negatively affecting your grade.
* Be ready to work upon arrival to class.
* Class participation is crucial for a full understanding of all aspects of the course. Make sure that you are participating in all group work and discussions.
* Be respectful of your classmates, faculty, community members, and classroom.

**Required Materials**

* 3-ring binder -- not to be shared with other class subjects
* Writing utensil

**LATE/MISSED ASSIGNMENTS**

**Late Work:** Assignments must be submitted at the start of class on the day they are due. Unless an arrangement has been made with the teacher in advance, late assignments will not be accepted.

**Missed Tests and Work:** All students are permitted to make up assessments listed on the calendar in the event that they were excused for the original administration or due date. If a student is absent the day of a test or the day a written assignment is due, the student should expect to make up the test or turn in the paper the day of his/her return.

**Technology:** Technological devices should only be used in class at times approved by the instructor. The use of such devices at times deemed inappropriate will result in a reduction in the daily grade.

**STUDENT CONTRACT**

Teacher Responsibilities

1. Provide a safe and comfortable environment for the student
2. Provide ample time for the student to receive any additional help during office hours
3. Enforce school rules consistently
4. Provide the student with clear and concise expectations
5. Work to make learning an enjoyable experience
6. Grade and return work in a timely manner with thoughtful feedback

Student Responsibilities

1. Be respectful to my classmates
2. Put my best effort into my school work
3. Obey all school rules in compliance with my teacher’s class rules
4. Come prepared to class with homework, materials, and a respectful attitude
5. Contact teacher, parent/guardian, or any school official if any additional help or support is needed

I understand my responsibilities and will honor them for the 2014-2015 School Year.

Student’s signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student’s printed name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student’s email address \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent/Guardian Contact Information

Parent/Guardian’s printed name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent/Guardian signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Telephone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_