

BARRIERE SECONDARY SCHOOL

Biology 12 **Ms. Trimble**

Introduction

This course is divided into three curriculum organizers. Each curriculum organizer is composed of several Learning Outcomes that must be achieved by students. The more Learning Outcomes per curriculum organizer, the greater the percent of the course achieved. This course is cumulative, which means you have the entire semester to achieve outcomes and your final grade will be the same as your term II grade

Processes of Science	15%
Cell Biology	40%
Human Biology	45%

Required Material

Students are expected to bring the following to EVERY class:

- Textbook: Nelson Biology
- Binder with lined paper (should have dividers to separate assignments and notes/examples)
- Pen/pencils
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Possible Methods of Assessment

- Quizzes
- Formal Lab Write-ups
- Assignments
- Learning Outcome Tests
- Final Exam

Focused Learning Outcomes

Processes of Science

- A1** Demonstrate safe and correct technique for a variety of lab procedures.
- A2** Design an experiment using scientific method
- A3** Interpret data from a variety of text and visual sources

Cell Biology

Cell Structure

- B1** Analyze the functional relationships of cell structures

Cell Compounds and Biological Molecules

- B2** Describe the characteristics of water and its role in biological systems
- B3** Describe the role of acids, bases, and buffers in biological systems in the human body
- B4** Analyze the structure and function of biological molecules in living systems, including Carbohydrates, lipids, proteins and nucleic acids

DNA Replication

- B5** Describe DNA replication
- B6** Describe recombinant DNA

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Protein Synthesis

- B7** Demonstrate an understanding of the process of protein synthesis
- B8** Explain how mutations in DNA affect protein synthesis

Transport across Cell Membrane

- B9** Analyze the structure and function of the cell membrane
- B10** Explain why cells divide when they reach a particular surface area-to-volume ratio

Enzymes

- B11** Analyze the role of enzymes in biochemical reactions

Human Biology

Digestive System

- C1** Analyze the functional inter-relationships of the structure of the digestive system
- C2** Describe the components, pH, and digestive actions of salivary, gastric, pancreatic, and intestinal juices

Circulatory System

- C3** Describe the inter-relationships of the structure of the heart
- C4** Analyze the relationship between heart rate and blood pressure
- C5** Analyse the functional inter-relationships of the vessels of the circulatory system
- C6** Describe the components of blood
- C7** Describe the inter-relationships of the structures of the lymphatic system

Respiratory System

- C8** Analyze the functional inter-relationships of the structures of the respiratory system
- C9** Analyze the processes of breathing
- C10** Analyze internal and external respiration

Nervous System

- C11** Analyze the transmission of nerve impulses
- C12** Analyze the functional inter-relationships of the divisions of the nervous system

Urinary System

- C13** Analyze the functional inter-relationships of the structures of the urinary system

Reproductive System

- C14** Analyze the inter-relationships of the structures of the male reproductive system
- C15** Analyze the inter-relationships of the structures of the female reproductive system

Effort Assessment

See Barriere Secondary School's effort achievement rubric.

Interventions

When a student struggles to meet the learning outcomes of this course, the following academic interventions will take place:

- Teacher/student conversations
- Teacher/student/parent conversation
- Referral to academic intervention program