

# PEACE RIVER SCHOOL DIVISION

VIRTUAL EDUCATION PROGRAM

*"Learning Together - Success for All"*



## **Biology 30**

Course Outline

2021-2022 | Semester 1

**Teacher: Ms. Kathryn Brooks**

### I. Course Overview

Biology 30 is intended to develop students' understanding and application of biological concepts and skills. The focus of this course is on understanding biological principles behind the natural events they experience and the technology they use in their daily lives. Biology 30 is an experimental discipline that develops knowledge, skills, and attitudes to help students become capable of and committed to setting goals, making informed choices, and acting in ways that will improve their own lives as well as life in their communities.

Students of Biology 30 will develop their ability to observe, generalize, hypothesize, and infer through observation. They will show growth in their understanding of biological concepts by increasing their ability to apply these concepts to relevant situations. They will learn to communicate in the specialized language of biology. Success in Biology 30 requires the successful completion of Science 10 and Biology 20, which develop the requisite knowledge and skills.

### II. Key Message/Expectations

Virtual Education is an exciting opportunity for PRSD students. Regular attendance and productive engagement in course material is an expectation and requirement for success in this course, both during synchronous and asynchronous instruction and learning activities.

Course content is organized into both teacher-directed and student-directed learning activities. Successful students will employ effective time management strategies to complete all activities on time.

Students are expected to demonstrate appropriate online and in-person behaviour in accordance with PRSD Board Policies and Administrative Procedures. By default, teachers will require students to have their cameras on during class time and require students to respond to questions or participate in discussions with their microphone. There will be times when teachers may allow students to turn their cameras off.

### III. Scope and Sequence

Units	General Learner Objective	Time On topic Approximately
<b>UNIT 1: Nervous System &amp; Endocrine System</b>	Students will explain how the nervous system controls physiological processes and how the endocrine system contributes to homeostasis.	20–25%
<b>UNIT 2: Reproductive Systems &amp; Hormones</b>	Students will explain how survival of the human species is ensured through reproduction and how human reproduction is regulated by chemical control systems.	10–15%
<b>UNIT 3: Differentiation &amp; Development</b>	Students will explain how cell differentiation and development in the human organism are regulated by a combination of genetic, endocrine, and environmental factors.	5–10%
<b>UNIT 4: Cell Division &amp; Genetics</b>	Students will describe the processes of mitosis and meiosis and will explain the basic rules and processes associated with the transmission of genetic characteristics.	25–30%
<b>UNIT 5: Molecular Genetics</b>	Students will explain classical genetics at the molecular level.	10–15%
<b>UNIT 6: Population Genetics &amp; Interactions</b>	Students will describe a community as a composite of populations in which individuals contribute to a gene pool that can change over time; will explain the interaction of individuals with one another and with members of other populations; and will explain, in quantitative terms, the changes in populations over time.	15–20%

#### IV. Instruction and Assessment

A variety of instructional and formative and summative assessment strategies will be used throughout this course, including through the use of both technology and traditional pencil-and-paper. Summative assessments will be used to determine course grades which can be accessed through PowerSchool.

The course will be evaluated over the term as follows:

<b>Total Unit Weight</b>	<b>Gradebook Category</b>	<b>Gradebook Weighting</b>
<b>UNIT 1: Nervous System &amp; Endocrine System 18%</b>	Unit 1 Assignments	9%
	Unit 1 Quizzes	3.6%
	Unit 1 Test	5.4%
<b>UNIT 2: Reproductive Systems &amp; Hormones 7%</b>	Unit 2 Assignments	3.5%
	Unit 2 Quizzes	1.4%
	Unit 2 Test	2.1%
<b>UNIT 3: Differentiation &amp; Development 7%</b>	Unit 3 Assignments	3.5%
	Unit 3 Quizzes	1.4%
	Unit 3 Test	2.1%
<b>UNIT 4: Cell Division &amp; Genetics 18%</b>	Unit 4 Assignments	9%
	Unit 4 Quizzes	3.6%
	Unit 4 Test	5.4%
<b>UNIT 5: Molecular Genetics 10%</b>	Unit 5 Assignments	5%
	Unit 5 Quizzes	2%
	Unit 5 Test	3%
<b>UNIT 6: Population Genetics &amp; Interactions 10%</b>	Unit 6 Assignments	5%
	Unit 6 Quizzes	2%
	Unit 6 Test	3%
<b>Diploma Exam</b>	Diploma Exam	30%

## **Diploma Exam is Tuesday, Jan 25, 2022 @ 9:00 am**

Unit Breakdown:

Assignments	50%
Quizzes	20%
Tests	30%

NOTE: Your Powerschool will reflect your Units 1-6 marks and add up to 100% but will be worth 70% representing your school mark for this course, the remaining 30% will come from your diploma exam, and combined respectively will result in your final mark.

## V. Resources

The required textbook for Biology 30 is *Nelson Biology 20-30*. A digital version of the textbook may be available. A student-owned scientific or graphing calculator is also required.

Students require access to reliable high speed internet that supports Google Meets. Students require a compatible device, usually a Chromebook, with a working webcam to access and participate in the course. Students require a working headset that includes a microphone and headphones.