BIOL 225 A01 (CRN 10371)
BIOL 225 A02 (CRN 10372)
Fall 2020

Class time and location:

The course will be delivered online in both an archived and live format. ***The first online tutorial session will be held on Wednesday, Sept. 09 from 10:30 – 11:20 (section A01) or 1:30 – 2:20 (section A02). From September 15 onwards, online tutorials will be held on Tuesdays from 10:30 – 11:20 (section A01) or 1:30 – 2:20 (section A02).*** There is no tutorial on Tuesday, November 10.

Instructors:

Dr. Doug Briant
e-mail: dbriant@uvic.ca
extra office hours TBA

Topics:

	topic	chapters
1	INTRODUCTION - introduction to cell biology	1, 4
2	BIOMOLECULES - cell chemistry and biomolecules	2, 3, 7, 8
3	ORGANELLES - cells and organelles	4,10,11
4	MEMBRANE SYSTEMS cytoplasmic membrane systems	12
5	SYNAPTIC SIGNALLING	13
6	CELL SIGNALLING (non-neuronal)	14
7	CYTOSKELETON	15,16,17
8	CANCER	19,24

TOPIC 3: Cells and Organelles

LEARNING OBJECTIVES: In this section, students will be introduced to the main functions of the organelles. Students will be expected to know the major functions of each organelle, and understand the adaptations each organelle has gained to maximize their ability to carry out these functions.

TOPIC 4: Membrane Systems

LEARNING OBJECTIVES: movement between organelles, or between organelles and the exterior of the cell, is often mediated by vesicles. The importance and significance of vesicular trafficking, as well as the mechanism, will be described in this section.

TOPIC 5: Signalling 1 – Synaptic Signalling

LEARNING OBJECTIVES: in this section, we will describe how impermeability of the cell membrane to ions allows membrane potential to be established. Students will be expected to know how the various ion channels contribute to an action potential by manipulating the permeability of ions.

TOPIC 6: Signalling II – Non-neuronal Signalling

LEARNING OBJECTIVES: students will be expected to understand the basic eukaryotic signalling pathways. The importance of regulation, and the complexity of combining signalling pathways will be outlined.

TOPIC 7: Cytoskeleton

LEARNING OBJECTIVES: students should understand the structure and importance of the three main cytoskeletal elements. The dynamic nature of the cytoskelton will be explored and a simple model of motility presented. Finally, the significance of cell-cell and cell-extracellular matrix will be described, and the important signalling pathways underlying these will be introduced.

TOPIC 8: Cancer

LEARNING OBJECTIVES: the epidemiology of cancer was introduced. Students will be expected to form hypotheses about cancer based on this epidemiology. Finally, the underlying causes of cancer will be introduced. Students should be able to correlate the underlying causes with events in the cell cycle of apoptosis.

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Course Experience Survey (CES)

We value your feedback on this course. Towards the end of term, as in all other courses at UVic, you will have the opportunity to complete an anonymous survey regarding your learning experience (CES). The survey is vital to providing feedback to me regarding the course and my teaching, as well as to help the department improve the overall program for students in the future. The survey is accessed via MyPage and can be done on your laptop, tablet, or mobile device. We will remind you and provide you with more detailed infor