Genetics: The Cell Cycle, Mitosis and Meiosis Targeted Readings v1

3rd Canadian ed. - Whiskey jack on cover	2019 UBC custom ed. – Frog on cover	2014-2018 UBC custom ed. – Stellar's Jay on cover
Chapter 12: The Cell Cycle Pay particular attention to: Section 12.1 How do cells replicate? [especially Fig 12.1 and Fig. 12.3] Section 12.2 What happens during M phase? [especially Fig 12.5, Table 12.1 – first 4 terms]	**Chapter 2: The Cell Cycle** Pay particular attention to: Section 1. How do cells replicate? [esp. Fig. 1 and Fig. 3] Section 2. What happens during M phase? [esp. Fig. 5, Table 1 – first 4 terms]	**Chapter 11: The Cell Cycle** Pay particular attention to: Section 11.1 [especially Fig. 11.2 and Fig. 11.3] Section 11.2 How does mitosis take place? [especially Figures 11.5, Table 11.1 – first 3 terms]
After finishing the readings, you should be able to: • Diagram chromosomes at different stages of the cell cycle (e.g. G1, S, or G2) and mitosis and label genetic loci, genes, alleles, centromeres, chromosomes, and sister/non-sister chromatids. • Given a diagram of a cell, identify the haploid number and ploidy of the cell, and be able to identify the stage of the cell cycle and/or stage of mitosis • Order the events in the cell cycle and describe the major cellular events or outcomes occurring at each stage or prior to the beginning of each stage. • Order the events in mitosis and describe the major events occurring at each stage		
Chapter 13: Meiosis Pay particular attention to: Section 13.1. How does meiosis occur? [Figures 13.1, 13.2, 13.3, 13.4, 13.6, 13.7, 13.8, 13.9, tables 13.1, 13.2] Section 13.2 Meiosis promotes genetic variation [Figure 13.11] Section 13.3 [optional] What happens when things go wrong in meiosis? Section 13.4 [optional] Why does meiosis exist?	**Chapter 3: Meiosis** Pay particular attention to: Section 1. How does meiosis occur? [Figures 1, 2, 3, 4, 6, 7, 8, 9 tables 1, 2] Section 2. Meiosis promotes genetic variation [Figure 11] Section 3 [optional] What happens when things go wrong in meiosis? Section 4 [optional] Why does meiosis exist?	**Chapter 12: Meiosis** Pay particular attention to: Section 12.1 How does meiosis occur? [Figures 12.1, 12.2, 12.3, 12.4, 12.6, 12.7, 12.8, 12.9 Tables 12.2 and 12.3 Section 12.2 The consequences of meiosis [Figure 12.11] Section 12.3 [optional] Why does meiosis exist? Section 12.4 [optional] Mistakes in meiosis

After finishing the readings, you should be able to:

- Diagram chromosomes at different stages of the cell cycle (e.g. G1) and different stages of meiosis. Label genetic loci, genes, alleles, centromeres, chromosomes, and chromatids (sister and non-sister).
- Order the events in meiosis and describe the major events occurring at each stage.
- Given diagrams, descriptions of dividing cells or the products of cell division, distinguish between mitosis and meiosis or identify the type and/or stage of cell division.
- Describe how crossing over and independent assortment occur.
- Identify when crossing over, independent assortment and random fusion of gametes occur in the cell cycle or life cycle of an organism.
- Explain how crossing over, independent assortment and random fusion of gametes contribute to genetic variation.