Genetics: Genetic Crosses & Pedigrees v1

3rd Canadian ed. - Whiskey jack on cover (pages below for the hard copy; e-text – should be chapter 13)	2019 UBC custom ed. – Frog on cover	2014-2018 UBC custom ed. – Stellar's Jay on cover
Chapter 14: Mendel & the Gene Introduction 14.1 Mendel's Experimental System - What Traits did Mendel Study - Table 14.1 (Vocabulary) 14.2 Mendel's Experiments with a Single Trait 14.3 Mendel's Experiments with Two Traits 14.4 Chromosome Theory of Inheritance 14.5 Extending Mendel's Rules, Except: - How Many Alleles Can a Gene Have - Does Each Gene Affect Just One Trait - Can Mendel's Principles Explain Traits…. Table 14.4 – you do not need to know the following terms: Multiple allelism, pleiotropy, polygenic inheritance of quantitative traits.	**Mendel & the Gene (pp 101-121)** Introduction and sections 1 – 5. But you are <u>not</u> responsible for the following terms in Table 4 – multiple allelism, polymorphism, pleiotropy, polygenic inheritance	**Chapter 13: Mendel & the Gene** Introduction 13.1 Mendel's Experimental System - What Traits Did Mendel Study 13.2 Mendel's Experiments with a Single Trait 13.3 Mendel's Experiments with Two Traits 13.4 The Chromosome Theory of Inheritance 13.5 Extending Mendel's Rules – up to codominance (not responsible for content on mapping, multiple allelism, pleiotropy, section on human height and intelligence)

After finishing the readings, you should be able to:

- Construct a Punnett square for mono- hybrid, dihybrid and test crosses
- For both unlinked and (physically) linked genes, calculate the expected frequencies of <u>gamete g</u>enotypes produced by individuals with zero, one, two or more heterozygous loci.
- For unlinked and unlinked genes, calculate the expected genotypic and phenotypic frequencies of <u>offspring</u> produced by a monohybrid, dihybrid, multihybrid or test-cross.
- Given information on a series of genetic crosses, be able to determine the mode of inheritance for a trait or traits, and be able to justify or explain your conclusion with evidence from relevant crosses

Chapter 14: Mendel & the Gene (Pedigrees) 14.6 Applying Mendel's Rules to Human Inheritance	**Mendel & the Gene (pp 121-124)** 6. Applying Mendel's Rules to Human Inheritance	**Chapter 13: Mendel & the Gene** 13.6 Applying Mendel's Rules to Humans

After finishing the readings you should be able to:

- Infer the mode of inheritance for a single trait using a pedigree.
- Justify your conclusion(s) regarding the mode of inheritance of a trait from a pedigree.
- Draw a pedigree (?) -this learning objective may be eliminated due to current situation.
- Be able to calculate probabilities of affected and or unaffected parents and offspring