

LEARNING OBJECTIVES FOR GENETICS

Exam I

Chapter 1: Introduction to Genetics

- Gain an overview of genetics and understand its central position in biology.
- Learn about the historical development of the science of genetics.
- Review and understand basic molecular genetics.

Chapter 2: Cell Reproduction

- Understand basic chromosome structure and the nature of homologues.
- Distinguish haploid and diploid numbers of chromosomes.
- Appreciate the position of mitosis and meiosis in the life cycle.

Chapter 3: Mendelian Genetics

- Distinguish genotype and phenotype.
- Understand the relationship of genes and chromosomes.
- Relate Mendel's postulates to the behavior of genes during meiosis.
- Apply the basic rules of probability and statistics to genetics problems.
- Follow dominant and recessive traits using pedigrees.

Chapter 4: Extensions of Mendelian Genetics

- Master basic genetic nomenclature.
- Understand how alleles affect phenotypes.
- Distinguish the different types of dominance and their biochemical basis.
- Examine gene interactions and the many ways this is manifested in the phenotype.

READING AND PROBLEM ASSIGNMENTS
Principles of Genetics, 6th edition, Snustad & Simmons

<u>Chapter: Pages</u>	<u>Problems</u>
1: 1-15	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
2: 18-36	4, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 20, 22
3: 40-57	1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 17, 24, 25, 26, 27
4: 62-82	1, 2, 3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 16, 17, 19, 21, 26, 27

Be sure to review and understand the “Basic Exercises” and “Testing Your Knowledge” sections at the end of each chapter.

(See the STUDENT COMPANION SITE at www.wiley.com/college/snustad for additional useful resources and information)