

Part 1.

An introduction to human genetics

In this first part of the book we cover a collection of topics that will be useful background throughout. This includes

*Chapter 1.1: A short list of **helpful numbers to guide quantitative thinking** about many questions in human genetics.*

*Chapter 1.2: An overview of **essential principles in genetics, and how these relate to the human genome**. Some of this will already be familiar to many readers, but the genomic perspective is not usually covered in this way in introductory classes.*

*Chapter 1.3: An **introduction to human genetic variation**: the types of variation, how we quantify variation, and an introduction to how variation affects phenotype. Understanding genetic variation will be the central theme of this book.*

*Chapter 1.4: **DNA sequencing** is the fundamental tool for studying genomes, and it's important to understand basic principles about the types of sequencing and the types of data we can collect.*

*Chapter 1.5: All genetic variation arose in the past through **mutation**. We provide an overview of mutational processes and rates, emphasizing topics that are relevant for human genetics.*