Table of contents

- **Chapter 1 Welcome to Molecular Biology!** (p. 1)
- **Part I The Structure of Proteins, Nucleic Acids, and Macromolecular Complexes** (p. 17)
- **Chapter 2 Macromolecules** (p. 18)
- **Chapter 3 Nucleic Acids** (p. 32)
- **Chapter 4 The Physical Structure of Protein Molecules** (p. 56)
- **Chapter 5 Macromolecular Interactions and the Structure of Complex Aggregates** (p. 76)
- **Part II Function of Macromolecules** (p. 97)
- **Chapter 6 The Genetic Material** (p. 98)
- **Chapter 7 DNA Replication** (p. 118)
- **Chapter 8 Transcription** (p. 146)
- **Chapter 9 Translation** (p. 168)
- **Chapter 10 Mutations, Mutagenesis, and DNA Repair** (p. 192)
- **Part III Coordination of Macromolecular Function in Cells** (p. 221)
- **Chapter 11 Regulation of Gene Activity in Prokaryotes** (p. 222)
- **Chapter 12 Regulation of Gene Activity in Eukaryotes** (p. 248)
- **Chapter 13 Genomics and Proteomics Drive Information-Age Biology** (p. 284)
- **Part IV Experimental Manipulation of Macromolecules** (p. 303)
- **Chapter 14 Transposons, Plasmids, and Bacteriophage** (p. 304)
- **Chapter 15 Recombinant DNA and Genetic Engineering: Molecular Tailoring of Genes** (p. 346)
- **Chapter 16 Molecular Biology Is Expanding Its Reach** (p. 370)
- **Postscript: Postscript to Your Review of Molecular Biology** (p. 403)
- **Appendix Chemical Principles Important for Understanding Molecular Biology** (p. 411)
- **List of Essential Concepts of Molecular Biology** (p. 435)
- **Glossary** (p. 439)
- **Answers to Questions and Problems** (p. 455)
- **Index** (p. 479)