
CONTENTS

<i>Preface</i>	ix
<i>For the Instructor</i>	xi
<i>For the Student</i>	xiii
<i>Acknowledgments</i>	xiv
<i>About the Authors</i>	xv

CHAPTER -1	Getting Started	1
CHAPTER 00	Introduction	5
	Activity 0.1: Biological Databases and Data Storage	20
CHAPTER 01	BLAST	31
	Activity 1.1: BLAST Algorithm	36
CHAPTER 02	Protein Analysis	47
	Activity 2.1: Hydrophobicity Plotting	52
	Activity 2.2: Protein Secondary Structure Prediction	58
CHAPTER 03	Sequence Alignment	67
	Activity 3.1: Dynamic Programming	74
CHAPTER 04	Patterns in the Data	91
	Activity 4.1: Protein Sequence Motifs	94
	Activity 4.2: Position-Specific Weight Matrices	102
CHAPTER 05	RNA Structure Prediction	111
	Activity 5.1: RNA Structure Prediction	118
CHAPTER 06	Phylogenetics	133
	Activity 6.1: Phylogenetic Analysis	140
CHAPTER 07	Probability: All Mutations are not Equal (-ly Probable)	157
	Activity 7.1: Generating PAM and BLOSUM Substitution Matrices	163
CHAPTER 08	Bioinformatics Programming: A Primer	179