

## Review Sheet for Final Exam

(last updated: June 23, 2016)

### A) Lecture Notes:

- One - Biology: All slides except: 8,10,11, 26, 29-32, 84-92.
- Two - Bioinformatics: All slides except: 3-4, 7,9,11,20-24,27,29,36-42,47-66.
- Three - Pairwise Sequence Alignment: All slides except: 44, 46, 65-68.
- Four - Multiple Sequence Alignment: All slides except: 27-32.
- Five - Phylogenetic Trees: All slides from 1 to 43 except: 11-18,24,27-31.
- Six - Motifs: All slides except: 19-25.
- Seven - Hidden Markov Models: All slides except: 66-83, 96-128.
- Eight - Transmembrane Secondary Structure Prediction : Slides: 6-8.

### B) Hands-On Exercises:

Number	Topic	For the Exams
One	Traits	Not included
Two	Interesting Problems	ALL - Problems 1,2,3, and 4
Three	Transcription-Translation & NCBI	ALL - Problems 1, 2, 3, 4 & 5 (all parts except e)
Four	Investigating Inherited Disease	Parts A, B, C, and D (all parts except 13)
Five	Multiple Sequence Alignment	Questions 1, 2, & 3
Six	Phylogenetic Tree	All - Parts A, B, and C
Seven	The Big Jaw	All - Problems 1 and 2
Eight	Beta Thalassemia	All - Parts A and B
Nine	PAX6 gene & protein	All - Parts A, B, C(not 16), and D
Ten	BRCA1 gene & protein	All - Questions 1 - 32
Eleven	HIV Genome	All - Questions 1 - 10
Twelve	Origins of HIV	All - Part A, B, and C
Thirteen	Detecting Motifs	All - Except Problem 5
Fourteen	Constructing PWM	All - Questions 1 - 12
Fifteen	Scoring Short Sequences	All - Questions 1 - 3
Sixteen	Arabidopsis	All - Parts 1 and 2
Seventeen	Hidden Markov Model	All - Problems 1, 2(not f), and 3(not c)
Eighteen	CFTR Protein	Parts A and B

### C) Everything we covered in class