CSE 398-498 Bioinformatics: Issues and Algorithms
Spring Semester 2006
Tuesdays and Thursdays, 2:35 pm – 3:50 pm
Room PL 258

Instructor **Professor Daniel Lopresti**
Office PL 404B ~ Ext 85782 ~ Email dal9@lehigh.edu
Office Hours 4:00 – 6:00 Wed (or by appointment)

Text *An Introduction to Bioinformatics Algorithms*
Neil C. Jones and Pavel A. Pevzner
MIT Press, ISBN 0-262-10106-8

Supplemental Reference *The Cognitive Style of PowerPoint*
Edward R. Tufte
Graphics Press, ISBN 0-961-39215-0

Blackboard Lecture slides and other resources available @ http://ci.lehigh.edu

Grading

- Class participation = 100 points
- Student lecture = 125 points
  preparation @ 25 points
  delivery @ 100 points
- Final project or paper = 125 points
  initial draft @ 25 points
  final version @ 100 points
- Scribe duty = 25 points (CSE 498 only)

Date	Lecture Topics / Other Deadlines	Scribe	Meetings
Tu 1/17	Introduction I – Prof. Lopresti		
Th 1/19	No class – Prof. Lopresti in CA for a conference		
Tu 1/24	Introduction II – Prof. Lopresti		
Th 1/26	Algorithms: design, analysis, presentation – Prof. Lopresti		
F 1/27	*Submit ranked list of topics for student lecture (by 12:00 noon)*		
	Topics for student lectures assigned by Prof. Lopresti (by 4:00 pm)		
Tu 1/31	Sequence comparison: basics – Prof. Lopresti		AK1
Th 2/2	Sequence comparison: saving time & space – Prof. Lopresti		KX1
Tu 2/7	Sequence comparison: advanced models I – Prof. Lopresti		AK2, RS1
Th 2/9	Sequence comparison: advanced models II – Prof. Lopresti		KX2, JM1
(Prof. Lopresti in NZ for a conference 2/10-2/16)			
Tu 2/14	Guest lecture – Prof. Ian Laurenzi – topic TBA		
Th 2/16	DNA microarrays / Lehigh Genomics Facility – Prof. Jutta Marzillier		

Date	Lecture Topics	Scribe	Meetings
M 2/20			AK3
Tu 2/21	Sequencing & sequence assembly – Adam Kornfield	MK	RS2, RK1
W 2/22			KX3
Th 2/23	Sequencing & sequence assembly – Kaili Xu	TS	JM2, RM1
M 2/27			RS3
Tu 2/28	Physical mapping of DNA – Rehana Soonasra	MS	RK2, MK1
W 3/1			JM3
Th 3/2	Physical mapping of DNA – Jonathan Martin	AE	RM2, JB1
Tu 3/7	No class – spring break		
Th 3/9	No class – spring break		
M 3/13			RK3
Tu 3/14	Phylogenetic trees – Russell Kuchar	EA	MK2, TS1
W 3/15			RM3
Th 3/16	Phylogenetic trees – Ryan Metzger	AK	JB2, JG1
M 3/20			MK3
Tu 3/21	Phylogenetic trees – Michael Kowalski	KX	TS2, MS1
W 3/22			JB3
Th 3/23	Genome rearrangements – James Benton	RK	JG2, AP1
F 3/24	*Submit final project / paper proposal (by 5:00 pm)*		
M 3/27			TS3
Tu 3/28	Genome rearrangements – Thomas Schaible		MS2, AE1
W 3/29			JG3
Th 3/30	RNA and protein structure prediction – Jeffrey Garretson		AP2, EA1
M 4/3			MS3
Tu 4/4	RNA and protein structure prediction – Mark Strohmaier		AE2, JL1
W 4/5			AP3
Th 4/6	DNA microarray analysis – Adrienne Platner		EA2, DT1
M 4/10			AE3
Tu 4/11	DNA microarray analysis – Andrew Elko		JL2, YZ1
W 4/12			EA3
Th 4/13	DNA microarray analysis – Erdem Arslan		DT2
M 4/17			JL3
Tu 4/18	DNA computing – Jason Love		YZ2
W 4/19	*Draft final project / paper due (by 5:00 pm)*		DT3
Th 4/20	DNA computing – Denis Thomas		
M 4/24			YZ3
Tu 4/25	DNA computing – Yifan Zhao		
Th 4/27	Bioethics & Course wrap-up – Prof. Lopresti		
F 4/28	*Final project / paper due (by 5:00 pm)*		