

Syllabus Sept 1, 2008

Biochem 711 Sequence Analysis, 2 cr, Fall semester 2008

| Date | Time | Topic | Locale | Who (key) |
|---------------------------------------|--------------|---|---------------|----------------------|
| Sept 2, Tues | 9:55-10:45 A | C01: Course intro; single-letter codes; primer on molecular graphics | 175 Biochem | JYS, ACP |
| | 1:20- 3:30 P | L01: Mol Graphics 1: PyMol | DMC | ACP, JYS |
| Sept 9, Tues | 9:55-10:45 A | C02: Nucleic acids & mutations | 175 Biochem | ACP |
| | 1:20- 3:30 P | L02: Mol Graphics 2: VMD | DMC | ACP, JYS |
| Sept 16, Tues | 9:55-10:45 A | C03: Protein 1: amino acids, protein structure | 175 Biochem | ACP |
| | 1:20- 3:30 P | L03: Mol Graphics 3: animations, quiz on single letter codes | DMC | ACP |
| Sept 23, Tues | 9:55-10:45 A | C04: Protein 2: structure prediction | 175 Biochem | ACP |
| | 1:20- 3:30 P | L04: Lasergene 1: protein analysis | DMC | ACP, JYS |
| Sept 30, Tues <i>Rosh Hashanah</i> | 9:55-10:45 A | C05: Substitution matrices Pick up book for book report | 175 Biochem | ACP |
| | 1:20- 3:30 P | L05: Lasergene 2: primers, mapping, | DMC | ACP |
| Oct 7, Tues | 9:55-10:45 A | C06: Microarrays 1: bioinformatics of chip datasets | 175 Biochem | ACP |
| | 1:20- 3:30 P | L06: MyMolecule in class presentations | DMC | ACP, JYS |
| Oct 14, Tues | 9:55-10:45 A | C07: Microarrays 2: ArrayStar software suite | 175 Biochem | Ryan Jacob, DNASTar |
| | 1:20- 3:30 P | L07: ArrayStar:tutorial | DMC | ACP, JYS, Ryan Jacob |
| Oct 21, Tues | 9:55-10:45 A | C08: Database searching | 175 Biochem | ACP |
| | 1:20- 3:30 P | L08: Database Searching: online tools, Blast, fasta, prosite | DMC | ACP, JYS |
| Oct 28, Tues | 9:55-10:45 A | C09: Pairwise comparison methods Matrix homework handout | 175 Biochem | ACP |
| | 1:20- 3:30 P | L09: Alignments & Evolution 1: Emboss, pairwise alignments | DMC | ACP, JYS |
| Nov 4, Tues | 9:55-10:45 A | C10: Multiple sequence alignments Matrix homework due (optional) | 175 Biochem | ACP |
| | 1:20- 3:30 P | L10: Alignments & Evolution 2: Emboss, Clustal, HMM | DMC | ACP |
| Nov 11, Tues | 9:55-10:45 A | C11: Phylogenetic reconstruction | 175 Biochem | ACP, JYS |
| | 1:20- 3:30 P | L11: Alignments & Evolution 3: MEGA 4 tutorial | DMC | ACP |
| Nov 18, Tues | 9:55-10:45 A | C12: Sequencing strategies | 175 Biochem | ACP |
| | 1:20- 3:30 P | L12: Lasergene 3: seq assembly In class quiz | DMC | ACP, JYS |
| Nov 25, Tues | 9:55-10:45 A | C13: Optimal & suboptimal RNA folding Book reports due | 175 Biochem | ACP |
| | 1:20- 3:30 P | L13: RNA Folding | DMC | ACP |
| Dec 2, Tues | 9:55-10:45 A | C14: Online software resources | 175 Biochem | ACP |
| | 1:20- 3:30 P | L14: Chromosome Maps | DMC | ACP |
| Dec 9, Tues | 9:55-10:45 A | C15: TBA | 175 Biochem | ACP |
| | 1:20- 3:30 P | Final exam | DMC | ACP |

[Course Web site 2008:](#)

<http://virology.wisc.edu/acp>

On this site, you will find information about:

- current syllabus or changes to syllabus
- course grading requirements
- class assignment information
- MyMolecule instructions
- lab book information, updates, purchase
- class slides, images, handouts (as pdfs, allow 24 hrs after class)
- class resources, web links, software download sites
- links to program tutorials
- sequence & pdb files used in lab exercises
- online class-related practice quizzes (not for credit)

[Hardware Access for 2008](#)

Digital Media Center (Biotech Center room 1240) is only available to students during regularly scheduled class/lab periods.

The Biochemistry Dept Student Computer Lab (room 5519, Biochemistry '85 wing building) has 3 Mac terminals, printer & scanner, programmed with the same software and software versions used in the 711/660 labs. Biochem dept students have 24x7 building access to this lab. Non-Biochem students can use this lab when building is open (8AM-6PM, M-F), OR they can request special building access for this semester, from Biochem Dept office. *Note: this lab resource is used for multiple Biochem classes, so plan your access carefully! Terminals cannot be pre-reserved.*

[Contacts for 2008:](#)

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