

Exam 2 Information

- The first exam will be on Friday, 13 April 2018, from **2:10–3:00pm**.
- The exam will cover all lectures, readings, and assignments predominantly since those that were covered on exam 1, up to and including the class on Friday, 6 April 2018. (please see the class schedule for exact coverage)
- The exam is closed book, however you may prepare in advance *the back of this page* with whatever notes you wish to place on it, and you may use this page during the exam. When the exam is over, turn in this sheet with the rest of your exam.
- The exam is entirely pen-and-paper based. You may not use the computers nor any other calculating devices.
- We envision questions of the following form:
 - For either the longest-common subsequence, or sequence alignment with gap/mismatch penalties (akin to hw05), you should be able to:
 - * Given original sequences X and Y of relatively small size, produce the matrix of intermediate calculations used in dynamic programming
 - * Given such a matrix of intermediate calculations, reconstruct an alignment that achieves the optimal result
 - Given a Python representation of a tree, such as
`('A', ('B', ('C', (), ()), ('D', (), ())), ('E', (), ()))`
to be able to produce a rendering of the tree, akin to what might be produced by the `draw1` function from lab05.
 - Given a Python representation of a tree that includes heights for internal nodes, such as
`(5, (3, ('A', (), ()), ('B', (), ())), ('C', (), ()))`
to be able to produce a rendering of the tree, akin to what might be produced by the `draw2` function from lab05.
 - Given a matrix of pairwise distance measures, to simulate the UPGMA algorithm on a small example.
 - Possibly a Python programming question, to reinforce parts of hw04