**MIP 280A4: Computational Microbiology**

**Genome Diversity, Structure and Variation, In-class exercise questions**

1. At the beginning of class: briefly describe 3 ways that genomes differ from each other (1 pt each)
2. At the beginning of class: What are 2 features shared by all genomes (1 pt each):
3. Order the following genome sizes from largest (#1) to smallest (#6) (1 pt each):
   1. 15 kbp
   2. 1.5 Gbp
   3. 15 Mbp
   4. 1.5 x106 bp
   5. 1500 bp
   6. 150,000 bp
4. At the end of class: briefly describe 3 *additional* ways that genomes differ from each other (1 pt each)
5. How many protein-coding genes would you predict are encoded by each of the following genomes? (1 pt each).
   1. The chimpanzee genome, ~3 Gbp, ~97% identical to the human genome
   2. A bacterial genome of ~2 Mbp