

**Bio 213. Spring 2004**  
*Lecture 7. Phylogeny and systematics*

- I. The Classification of Organisms. *New terms: taxonomy, systematics*
  - a. Species names
  - b. Higher categories
  
- II. Inferring phylogeny. *New terms: phylogeny, cladistics, cladogram*
  - a. Constructing a cladogram
    - i. Identify *shared derived characters*
      - 1. use *homologies instead of analogies*
      - 2. define an *outgroup* and *ingroup*
    - ii. Pour data into character table
    - iii. Use computers to analyze data
  - b. Phylogenetic trees are hypotheses. New term: *parsimony*
  
- III. Kingdoms and domains
  - a. Domains: Archaea, Bacteria, Eukarya
  - b. Kingdoms: Monera, Protista, Fungi, Plantae, Animalia