CS448 Syllabus

Topics will include:

1. Philosophy
   1.1. Representation/Learning/Search
   1.2. The problem space and the solution space
   1.3. Prediction/Correction
   1.4. Turing Test
   1.5. Chinese Room
   1.6. How science works
   1.7. How research works

2. Cognition
   2.1. Many/mini minds (Dennet)
   2.2. Hebb's theory
   2.3. Consciousness
      2.3.1. Appears to lag action
      2.3.2. The story we tell ourselves?
      2.3.3. Where is it located?

3. Brain
   3.1. Corpus Callosum
   3.2. Superior Colliculus
   3.3. Dopamine/norepinephrine balance
   3.4. Synchrony
   3.5. How a neuron works

4. Techniques/Algorithms
   4.1. Perceptron/BP
   4.2. Genetic Algorithm
   4.3. Neural networks
   4.4. Classifier Systems
   4.5. Games
      4.5.1. minimax
      4.5.2. rote learning

5. Java
   5.1. Prototypes/testing
   5.2. interface
   5.3. abstract classes
   5.4. Class structure vs. algorithm complexity
   5.5. Clone (deep/shallow copy)
   5.6. Booch diagrams and class design