Searches in AI in general.

Only the equivalent of ECE 218 (data structures) is a pre-requisite for this class. Thos of you who have gone further than that will occasionally see something you have seen before.

Not just looking for a value (tree search e.g.) or thing or place.

State
- Initial
- Goal (but maybe not)

Value measure: V(state) = number (or something number-like)

How to get from initial state to goal state OR state with highest V value or just high enough). The path is what we're really interested in. Usually the best (in some way) path.

As well as initial state and possibly goal state:
- State space - a graph, usually no physical existence
- Set of possible actions
- Transition model: T(state, action) = new state
- sometimes cost function C(action) or C(action, state) = number
  - Closest (BFS) C(a) = 1 for all actions

Definitions:
- path = sequence of actions not states (usually)
- solution = path from initial to (goal) state
- optimal solution: least total cost of actions
  - or best final value, or combination
- model = abstract description, only pertinent facts

Farmer etc. is so far not much more than an ordinary depth-first search

Closed set - avoid loops, used last week
Open set (not usually considered, but it is always there)
Backtracking - already used
Breadth first - memory hog often
Iterative deepening

> Those six are standard algorithmic tools, not considered AI in themselves but definitely used in AI solutions. Sort of like a binary tree: it isn't a program, but it does give rise to programs.