

# CS 581: Topics in Artificial Intelligence

## Objectives

- Various advanced topics in AI are covered, including both theory and practice.

## Prerequisites

- CS 480 or permission of instructor.

## Syllabus

Content may vary by instructor. Possible topics include:

- Planning: STRIPs planning
  - Partial-order planning
  - Situation calculus
  - Theorem proving
  - GraphPlan/SatPlan
  - Transformational planning
  - Simulated annealing
  - Motion planning
  - Case-based reasoning
  - Multi-agent coordination
  - Negotiation planning
- Representation and Reasoning
  - Logical representation
  - Frame problem
  - Probabilistic reasoning
  - Bayesian networks
- Game Playing
  - Minimax search
  - Evaluation functions
  - Learning evaluation functions
  - Markov Decision Processes
  - Reinforcement learning for games
  - Developing AI agents
  - Multi-agent planning

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