COSC 322 (3) Introduction to Artificial Intelligence AI and intelligent agents; state space search; game playing agents; logic and knowledge-based agents; constraint programming; planning; reasoning and decision making under uncertainty; machine learning; natural language understanding. Credit will be granted for only one of COSC 322 or COSC 522. [3-2-0] Prerequisite: All of COSC 221, COSC 222. Objectives This course introduces students to the theoretical aspects and programming techniques for building artificial intelligence systems, i.e., software agents that act "rationally" based on available information and computing resources. We will be focusing on search-based agents, logic-based agents, agents that make decisions under uncertain environment, and agents that learn from observations. Upon successful completion of this course, students are expected to (1) obtain a thorough understanding about the fundamental problems and basic techniques in artificial intelligence; (2) acquire significant AI programming skills; and (3) have the ability to apply the discussed techniques in practice. Topics to be covered include (but not limited to) heuristic state-space search; adversarial search and game playing; constraint programming; logic inferences, knowledge representation, and automatic planning; and basics of probabilistic reasoning and machine learning.