

**Department:** Mathematics and Computer Sciences

**Division:** Computer Sciences

**Level and Major:** Graduate

**Course Title:** Advanced Artificial Intelligence

**Number of Credits:** 3

**Prerequisite:**

**Lecturer:**

**Course Description:**

- The Foundations of Artificial Intelligence
- Intelligent Agents
- Solving Problems by Searching
- Search in Complex Environments
- Adversarial Search
- Constraint Satisfaction Problem
- Logical Agents
- First Order Logic
- Neural Network
- Natural Language Processing
- Computer Vision
- Robotics

**Course Topics:**

- Course Logistics and Policies
- Artificial Intelligence: Past, Present and Future
- Knowledge Representation & Reasoning: Logic
- Knowledge Representation & Reasoning: First Order Logic
- Knowledge Representation & Reasoning: Inference
- Machine Learning: Introduction and Practicalities
- Machine Learning: Introduction to Classification
- Machine Learning: Cluster Evaluation
- Decision Making: Decision Trees
- Decision Making: Bayesian Decision Theory;
- Computer Vision I
- Computer Vision II
- Information Extraction: Natural Language Processing
- Information Extraction: Natural Language Processing
- Social Media Computing I--Graph
- Social Media Computing II--Sentiment
- Project Presentation

**Reading Resources:**