Description: Artificial Intelligence (AI) is an important topic in computer science that has many diversified applications. It addresses one of the ultimate puzzles human are trying to solve – How is it possible for a slow, tiny brain, whether biological or electronic, to perceive, understand, predict, and manipulate a world far larger and more complicated than itself? And, how do we go about creating a machine (or computer) with those properties? To this end, researchers in the AI field have been trying to understand how seeing, learning, remembering, and reasoning could, or should be done. This course introduces students to the basic concepts and techniques in artificial intelligence.

Pre-requisites: CS-GY 2134 or CS-GY 5403 (Data Structures) or equivalent, and proficiency in a high-level programming language such as Python, C/C++, or Java.

Week | Topics (Tentative)
-----|--------------------------------------------------
1 | Introduction
   | Intelligent agents
2-4 | Solving problems by searching (State space search)
5 | Local search and optimization
6 | Adversarial search (Game trees)
7 | Constraint satisfaction problems
8 | Exam 1
9-10 | Logical agents
11-12 | First-order logic
12-13 | Inference in first order logic
14 | Machine learning
15 | Exam II (during final exam week)

Instructor: Professor Edward K. Wong  
Office: Room 10.045, 10th floor, 2 Metrotech Center  
Office Hours: Tues 2:15 – 3:00 pm. Thurs 3:30 – 5:00 pm. Other times: You are welcome to drop by whenever I am in the office or you can make an appointment.  
Phone: (646) 997-3523  
E-mail: ewong@nyu.edu

Course loads: There will be about five to six handwritten (or typed) homework assignments, plus one AI programming project. The project is a one-person project and everyone will be assigned the same project. You can use any high-level programming language, such as C++, Python or Java, to do the project. There will be two exams. The second exam is given during the final exam week and includes only materials not covered in the first exam.

The preferred way to hand in homework is by submitting a hardcopy the day it is due in class. If you cannot come to class, you can put a hardcopy in my mail box, located in the CSE department office in Room 10.016 of 2 MTC, or you can upload an electronic copy to NYU Classes. Late homework and project will be accepted but will be subject to 2% grade penalty (of the total points of the assignment) each day it is late (weekends included). Solutions to homework are posted approximately one week after the homework is due. No late homework will be accepted after solution has been posted.

Grade distribution:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>~12%</td>
</tr>
<tr>
<td>Project</td>
<td>~12%</td>
</tr>
<tr>
<td>Exam I</td>
<td>~38%</td>
</tr>
<tr>
<td>Exam II</td>
<td>~38%</td>
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</tbody>
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A weighted course average will be computed and used in determining your final grade.

Policy on Academic Dishonesty: The School of Engineering encourages academic excellence in an environment that promotes honesty, integrity, and fairness. Please see the School’s policy on academic dishonesty from the Student Code of Conduct: http://engineering.nyu.edu/files/SACCofC2-2-16.pdf