**CS 4613 Artificial Intelligence**
**Course Outline**

**Spring 2021**
**E. K. Wong**

**Lecturesm**

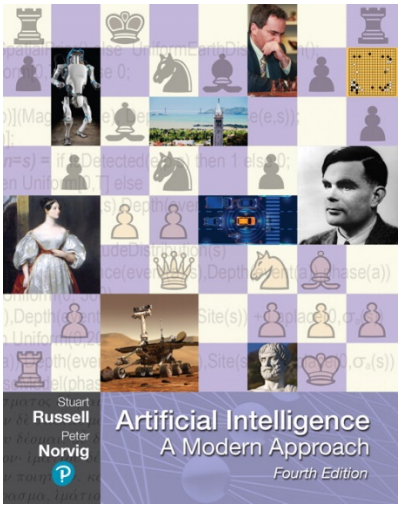
**Description:** Artificial Intelligence (AI) is an important topic in computer science that has many diversified applications. It addresses one of the ultimate puzzles human are trying to solve – How is it possible for a slow, tiny brain, whether biological or electronic, to perceive, understand, predict, 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.

**Prerequisites:** for NYC Students**:** (CS-UY 2134 or CS-UY 1134) and (CS-UY 2124 or CS-UY 1124) (C- or better) | for Abu Dhabi Students**:** ENGR-UH 3510 or CS-UH 1050 (C- or better) | for Shanghai Students: CSCI-SHU 210 (C- or better)

**Weekly Syllabus (tentative):**

| Week | Topics |
|---|---|
| 1 | Introduction<br>Intelligent agents |
| 2-4 | Solving problems by searching |
| 5-6 | Adversarial search |
| 6-7 | Constraint satisfaction problems |
| 8 | Exam 1 |
| 9-10 | Logical agents |
| 11-12 | First-order logic & inference |
| 13-14 | Machine learning |
| 15 | Exam II (during final exam week) |

**Text Book (Required):** S. Russell and P. Norvig, *Artificial Intelligence: A Modern Approach,* 4th edition, Pearson (April, 2020.)



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**Instructor:** Professor Edward K. Wong
**Office Hours:** nt. **E-mail:**

**TAs:**
See NYU Classes.

**Course load:** There will be about 6 to 7 handwritten (or typed) homework assignments. Everyone will work on the homework by herself/himself. There will also be 2 AI programming projects. You can work on the projects by yourself or form a team of 2 students. Python, C/C++ or Java are the recommended languages to use. If you intend to use another language, send me an email first. You can discuss with your classmates on how to do the homework or projects but everyone (or team) is expected to turn in her/his/their own work.

Late homework up to 7 days late and late projects 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.

**Exams:** There will be two exams. The second exam will be held during the final exam week and will only include materials that were not covered in the first exam. The exams will be open-book and open-note. You will need a basic scientific calculator for the exams.

**Grade distribution:**

| | |
|---|---|
| Homework | ~ 12% |
| Projects | ~ 18% |
| Exam I: | ~ 35% |
| Exam II: | ~ 35% |

A weighted course average will be computed and a curve will be plotted and used in the determination of your final course 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 in the Student Code of Conduct: https://engineering.nyu.edu/campus-and-community/student-life/office-student-affairs/policies/student-code-conduct

**Moses Center for Student Accessibility**: New York University is committed to providing equal educational opportunity and participation for all students. The Moses Center for Student Accessibility (CSA) works with NYU students to determine and implement appropriate and reasonable accommodations as well as access available programs and resources. If you require accommodations, please visit the following webpage for further information https://www.nyu.edu/students/communities-and-groups/student-accessibility.html