CMPT 310: Artificial Intelligence Survey

Fall 2018

Course Information

Instructor:

Jim Delgrande, T9015; email: jim
Office hours: Mon., Wed. 2:00-3:00

TA:

TBA

Lecture Hours: MWF: 10:30 – 11:20
Lecture Room: MWF: AQ3149

Course Home Page: `www.cs.sfu.ca/CourseCentral/310/jim`

Course Info

Goal:

Introduction to Artificial Intelligence

- Survey current work
- Look at historically-important topics.
- Examine representational issues and reasoning in AI.

☞ Can't hope to cover all topics, given the scope of the field

Prerequisites:

- CMPT 225 and (MACM 101 or (ENSC 251 and ENSC 252)).
- *Interest*

Course Grading

Grading

- 40% - 4 assignments, each worth 10%
- 20% - midterm test
- 40% - final exam

- The date of the final is TBA
- You *must* be able to make the final

Course Grading

Letter Grades

Letter grades will be assigned as follows:

A+: $\geq$90,	A: 84-89,	A-: 80-83,
B+: 77-79,	B: 74-76,	B-: 70-73,
C+: 67-69,	C: 64-66,	C-: 58-63,
D : 50-57,	F: $<$ 50.	

Note

- In calculating a final mark, grades will not be scaled down.
- They might be scaled up, but this is rare.

Course Policies

Coursework and Academic Honesty

- All course work must be done individually by each student.
- It's ok to discuss general principles and directions for an assignment, but the solutions you submit must be yours
  ☞ i.e., you must have created them entirely on your own.
- Failing to do so will be considered academic dishonesty and appropriate penalties will be applied.
- If you're in doubt, please ask.

Course Policies

Marking Issues

- For questions concerning the assignments, please see the TA first, and then talk to me if you still have concerns.
- If you have any concerns regarding grading of an assignment or a test, please notify myself or the TA within one week of the material being handed back.

Even More Course Policies

Office Hours and Email

- Please use email only for brief questions or for points of clarification.
- For longer questions or problems please see the TA or myself during office hours.

Due Dates

Unless announced otherwise, all assignments are due at 23:59 on the given date; and late assignments will not be graded.

Text and references

Textbook:

Artificial Intelligence: A Modern Approach (3rd Edition), Stuart Russell and Peter Norvig, Prentice Hall, 2010

AI References:

The following may prove useful for supplemental material.

- *Artificial Intelligence: Foundations of Computational Agents*, David Poole and Alan Mackworth, Cambridge University Press, 2010. See `http://artint.info/index.html`.
- *Artificial Intelligence: Structures and Strategies for Complex Problem Solving, 5th ed.*, G.F. Luger and W.A. Stubblefield, 2004. (Lots on AI programming. More recent edition?)
- Lots of others...

Language

- Previous offerings of CMPT 310 that I've taught used the programming language *Scheme* for assignments.
- Given time constraints, this time we'll be using Python.
- If you would like to use another language for an assignment, please see the TA first.

Topics

Outline (may be subject to change):

1. Introduction
2. Search: Uninformed, informed, adversarial
3. Constraint satisfaction
4. Logical Agents
5. Planning
6. Reasoning under uncertainty (probability)
7. Bayesian networks
8. Learning
9. Neural Networks

Beyond 310

Other AI Courses:

- CMPT 411: Knowledge representation
- CMPT 412: Computational vision
- CMPT 413: Computational linguistics
- CMPT 414: Model-based computer vision
- CMPT 417: Intelligent systems
- CMPT 419: Special topics in artificial intelligence (Often offered as machine learning)