CARLETON UNIVERSITY
SCHOOL OF COMPUTER SCIENCE
WINTER 2018

COMP 4106
ARTIFICIAL INTELLIGENCE

Instructor
John Oommen

Address
Herzberg 5372 (oommen@scs.carleton.ca; www.scs.carleton.ca/~oommen)

Phone
520-2600 (Ext. 4358)

Lecture Room
UC 180

Teaching/Office Hours
Teaching: Tuesday/Thursday 13:05 - 14:25 Hours
Office: Monday/Wednesday 15:00 - 16:00 Hours

Teaching Assistants
1. Ekaba Bisong (EkabaBisong@cmail.carleton.ca)
   Office Hours: Monday: 16:00 - 18:00 Hours

2. Omar Ghaleb (OmarGhaleb@cmail.carleton.ca)
   Office Hours: Tuesdays: 10:00 - 12:00 Hours

3. Benjamin Mallah (BenjaminMallah@cmail.carleton.ca)
   Office Hours: Wednesday: 14:30 - 16:30 Hours

4. Abdolreza Shirvani (AbdolrezaShirvani@cmail.carleton.ca)
   Office Hours: Thursday: 10:00 to 12:00 Hours

Marking Scheme:
1. There will be 3 assignments, equally weighted, and totaling 50% of the final credit.
2. Since the assignments are mostly programming assignments, the students will demo them on
   the due date on the lab machines in the TA lab or their own laptops. You may program the
   assignment in any language you like.
3. There will be 1 final project carrying 30% of the final credit.
   • After a few weeks, students are expected to propose or ask for a suitable project.
   • The project will be due during the second-half of the examination period.
   • At a later date, which will be announced, all students will hand in a brief 1-to-2 page
     description/proposal of their chosen project.
4. There will be a final in-class quiz worth 20% of the final credit.
Assignment Regulations:
1. No LATE assignments will be accepted. But I believe that I am very reasonable!
2. Retain all your assignments for a proof of your mark.
3. In case your mark is erroneously entered, we will discuss this on a case-by-case basis.

Text Book and Material
Text Book

Book: Additional Reading

Class Notes
The notes of the course will be posted before each lecture.

Details regarding the Course Contents
Goal
This course will introduce the students to the elementary concepts of Artificial Intelligence (AI).

Background:
The prerequisites of the course are as specified in the Calendar, or equivalent.

Material:
2. Different types of Agents
3. Graph search as used in AI
4. Heuristic graph search solutions for problem solving and games
5. Foundations of Classification Theory and Bayesian inference
6. Introduction to Decision Tree induction
7. Introduction to Dependence Tree models and Bayesian Networks
8. Introduction to Reinforcement Learning
9. Introduction to Neural Networks (NN): We will study at least three families of NNs

Since the area is so vast, this is a tentative list of topics that I will cover.