

Syllabus

AP/ITEC 4310 3.0

Applied Artificial Intelligence

Section M, Winter 2020

Instructor:	Prof. S. Chen
Office Hours:	Thursdays 1:00 – 3:00pm, DB (TEL) 3046
TA:	none
Classroom:	ACW 008
Time:	Thursdays 4:00 – 7:00pm
Lab:	ITEC labs
Midterm:	Thursday 4:30 – 5:30pm, February 27
Final:	TBA
Textbook:	Tutorial book and Cloud account
Homepage:	http://www.yorku.ca/sychen

Course Description

This course provides an introduction to the field of Artificial Intelligence (AI). After years of “lab work”, many meaningful real-world applications are now ready. Although there is still much scientific work to be done, this course will focus on the opportunity to apply existing AI products to real-world problems. A brief overview of the science of AI will help explain its function and limitations. A key component of this course will be the use of real-world systems and a group project.

Textbook

There is no textbook, but there are many required readings. It is important to read actively to stay current on scientific advances and industrial trends.

Tutorials

Tutorials will prepare you to use an Industrial AI engine for your project.

AI Article, Homework Assignment

During weeks 7-10, each of you will be required to share a link (e.g. to a news article) to the course group page and to provide a short (2-5 sentence) synopsis of the link. You will be graded on the quality of the shared resource and the quality of your synopsis (10 marks total). You will also be required to provide five comments on the resources shared by your classmates (2 marks for each worthwhile comment – indicated by a “like”). Further, you will have only about one week to comment on the shared links of your classmates – once I post my comment, I will no longer monitor the thread to assign grades to additional comments.

Project Proposal

The project proposal is to be 2-4 pages in length. It will describe the “product”, the component technologies, and the role of team members. It will be discussed and graded in class.

Important Dates

The Tutorials must all be complete prior to the midterm.

The Midterm will be 4:30-5:30pm on Thursday, February 27th.

Project Proposals are due on Thursday, March 5th.

Evaluation

Tutorials –	10%
AI article (by 3/19) –	10%
AI article comments (by 3/26)	10%
Midterm (2/27) –	20%
Project proposal (3/5) –	10%
Class participation (3/5 – 3/26) –	20%
Project presentation (4/2) –	20%

Standard grade conversion, e.g.

<http://calendars.students.yorku.ca/2016-2017/academic-and-financial-information/academic-services/grades-and-grading-schemes>

Late Policy

The Group Project will be graded based on whatever is complete on the final day of class.

Lecture and Tutorial Topics

	<u>Day</u>	<u>Topic</u>
Lecture 1	1/9	Introduction
Tutorial 1	1/9	Setting up a Bluemix account and creating the resources
Lecture 2	1/16	Clustering, classifiers, feature selection
Tutorial 2	1/16	Using Watson Conversation, part I
Lecture 3	1/23	Bayesian analysis
Tutorial 3	1/23	Using Watson Conversation, part II
Lecture 4	1/30	Artificial Neural Networks, back propagation, testing and training
Tutorial 4	1/30	Using Watson Discovery
Lecture 5	2/6	Case study – natural language processing
Tutorial 5	2/6	Using Watson Machine Learning
Lecture 6	2/13	Case study – computer vision and autonomous vehicles
Tutorial 6	2/13	Using Watson Natural Language Understanding
	2/20	Reading Week
	2/27	MIDTERM
Group	3/5	Proposals Due
Projects	3/12	
	3/19	Articles Due
	3/26	Comments Due
	4/2	Group presentations