

CGSC 4601/5106: Cognitive Modeling, Winter 2021

Class Information

Time: A-Synchronous

Location: On-Line

Instructor Information

Instructor: Robert West

Office: DT2209

E-mail: Robert.west@carleton.ca

Office Hours: By appointment on zoom

Course Description

The purpose of this course is to introduce students to the use of human like computational agents in academic and applied research. No knowledge of computer programming is needed. The class will learn to use ACT-R, which is the most widely known and accepted cognitive modelling system. However, we will also examine other types of systems for generating simulated human agents.

Prerequisites

For undergraduates: third year standing, [CGSC 2001](#), and ([CGSC 1005](#) or [COMP 1005](#))

Readings

No textbook. – Assigned content will be free online resources only

Course Web Page (cuLearn)

- The course website is located at <https://carleton.ca/culearn/>
- All information for the course as well as course content can be accessed here

Evaluation

Undergraduate students and graduate students will complete the same components of the course and the weighting will be the same. However, graduate students will be evaluated to a higher standard than undergraduate students. Graduate students will be expected to demonstrate deeper levels of critical thinking than undergraduate students, especially around theoretical and methodological issues. Evaluation will be based on weekly assignments (25%), a technical report (25%), and a final running model (50%). Students are encouraged to build models related to their own area of interest

Evaluation	Weight of Grade
weekly assignment	25%
technical report	25%
running model	50%

Topics Covered

The topics covered are listed below

- Introduction to modeling
 - week of jan 11
- Introduction to ACT-R
 - week of jan 18
- Production Systems
 - week of jan 25
- Declarative Memory
 - week of feb 1
- Creating environments
 - week of feb 8
- Winter break
 - week of feb 15
- Procedural Learning
 - week of feb 22
- Vision
 - week of mar 1
- Motor
 - week of mar 8
- Neural
 - week of mar 15
- Experts
 - week of mar 22
- Problem Solving
 - week of mar 29
- Holographic vectors
 - week of apr 5
- review
 - week of apr 12

***This schedule is to be regarded as tentative. I am required to give dates and topics, which doesn't make sense for an asynchronous, online course. So please refer to the course page for the actual content**

Learning Support Services

This service is operated by the [Student Academic Success Centre](#) and offers a variety of services designed to support student learning. For example, they offer group study rooms, free drop-in sessions with study skills specialists and writing tutors, free academic skills workshops, networked computers, a tutor referral service, and supportive peer helpers. They are located in the MacOdrum Library. For more information, visit the [LSS Website](#).

Written Assignments: Deadlines and Late Policy

No written assignment is accepted after the established deadlines without penalty. Please note that all the written assignments are due **at 11:30 p.m. not 11:59 p.m.** The penalty is **10% for any part of each day late**. There is **no grace period** (this means that if you are 5 minutes late or 5 hours late, you receive a 10% deduction). If you are running into trouble, it is vital to contact the instructor **prior to** the due date. **In order to be considered official, all extensions must be obtained in writing from the instructor.** A doctor's note or

other appropriate documentation must be provided within **three working days** after the due date in order to avoid late penalties.

Missed Midterms

If a midterm is missed an alternative date will be scheduled for an alternative midterm exam

Disruption

Disruptive behaviour is an instructional offence at Carleton University. Talking amongst yourselves or using personal communication devices disrupts other students and is not allowed. Laptop computers may be used only for note taking and mobile phones may not be used. You are expected to arrive on time for lectures and remain for the balance, as late arrivals and early departures disrupt other students.

Regulations and Information

REQUESTS FOR ACADEMIC ACCOMMODATION

You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

Pregnancy: write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details see the [Student Guide](#)

Religious obligation: write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details see the [Student Guide](#)

Academic Accommodations for Students with Disabilities: The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the [PMC website](#) for the deadline to request accommodations for the formally-scheduled exam (if applicable).

PETITIONS TO DEFER

Students unable to complete a final term paper or write a final examination because of illness or other circumstances beyond their control or whose performance on an examination has been impaired by such circumstances should refer to [Section 9.3](#) of the Graduate Calendar Regulations for details on how to request a deferral.

WITHDRAWAL WITHOUT ACADEMIC PENALTY

The last day to withdraw from a Fall course, without academic penalty, is September 30, 2020. The last day to withdraw from a Winter and Fall/Winter course, without academic penalty, is January 31, 2021. Students may withdraw on or before the last day of classes.

WDN: For students who withdraw after the full fee adjustment date in each term (noted in the Academic Year section of the Calendar each term) the term WDN will be a permanent notation that appears on their official transcript.

OFFICIAL FINAL EXAMINATION PERIOD

Fall courses: December 12-23, 2020. Winter and Fall/Winter courses: April 16-27, 2021 (may include evenings & Saturdays or Sundays)

For more information on the important dates and deadlines of the academic year, consult the [Carleton 2020-2021 Calendar](#).

PLAGIARISM

The University Senate defines plagiarism as “*presenting, whether intentional or not, the ideas, expression of ideas or work of others as one’s own.*” This can include:

- reproducing or paraphrasing portions of someone else’s published or unpublished material, regardless of the source, and presenting these as one’s own without proper citation or reference to the original source;
- submitting a take-home examination, essay, laboratory report or other assignment written, in whole or in part, by someone else;
- using ideas or direct, verbatim quotations, or paraphrased material, concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another’s data or research findings;
- failing to acknowledge sources through the use of proper citations when using another’s works and/or failing to use quotation marks;
- handing in “*substantially the same piece of work for academic credit more than once without prior written permission of the course instructor in which the submission occurs.*”

Plagiarism is a serious offence, which cannot be resolved directly with the course’s instructor. The Associate Deans of the Faculty conduct a rigorous investigation, including an interview with the student, when an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They range from a mark of zero for the plagiarized work to a final grade of "F" for the course, and even suspension from all studies or expulsion from the University.

GRADING SYSTEM

Letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100 B = 73-76 C - = 60-62

A = 85-89 B - = 70-72 D+ = 57-59

A - = 80-84 C+ = 67-69 D = 53-56

B+ = 77-79 C = 63-66 D - = 50-52

F Failure. No academic credit

Standing in a course is determined by the course instructor, subject to the approval of the Chair and Faculty Dean.

For courses that are graded as satisfactory or unsatisfactory (i.e. pass/fail) the following notations will be used:

SAT: Satisfactory performance in an ungraded program requirement. SAT has no impact on the GPA calculation

UNS: Unsatisfactory performance in an ungraded program requirement. UNS has no impact on the GPA calculation.

RESOURCES are available remotely:

Faculty of Graduate & Postdoctoral Affairs: Graduate.Studies@carleton.ca

Paul Menton Centre: <https://carleton.ca/pmc/>

Writing Services: <https://carleton.ca/csas/writing-services/>

Career Services: <https://carleton.ca/career/>

Centre for Student Academic Support: <https://carleton.ca/csas/>