**Carleton University**

**Department of Systems and Computer Engineering**

**SYSC 5103 Software Agents Winter 2021**

**Course Outline**

**Instructor Information and Office hours**

Prof Babak Esfandiari, office 4478 ME

**Course Number and Calendar Description**

See under SYSC5103 at: [**http://calendar.carleton.ca/grad/courses/SYSC/**](http://calendar.carleton.ca/grad/courses/SYSC/)

Course website: http://www.sce.carleton.ca/cgi-babak/agentcourse.cgi?AgentOverview

Prerequisite: no course prerequisites, but good knowledge of an object-oriented programming language, preferably Java, is absolutely necessary.

Office hours: TBD, but usually one hour before class

Mixed Modality Course: this course is an online course where there is a mixture of synchronous meetings and asynchronous activities. This means students need to be prepared to meet some of the time online via web conferencing tools at scheduled days and times. The specific dates will be communicated by the instructor in the course outline. The asynchronous activities are intended to provide flexibility to students when the class is not meeting synchronously. Students are expected to remain up to date with the deadlines and due dates provided by the instructor. These courses require reliable high-speed Internet access and a computer (ideally with a webcam), and a headset with a microphone.

**Course Objectives**

After this course, students should be able to:

* build simple agents and multi-agent systems using basic AI concepts
* read and understand most of the research material in the field of software agents

**Learning Outcomes**

* can build simple agents and multi-agent systems using basic AI concepts
* can read and understand most of the research material in the field of software agents

**Textbooks (or other resources) if applicable**

Selected chapters from two recommended books:

* Artificial Intelligence: a Modern Approach, Russel & Norvig, Prentice Hall (any edition)
* An Introduction to MultiAgent Systems, Michael Wooldridge, Wiley.

**Evaluation, Grading Scheme and Breakdown of course requirements (labs, assignments, quizzes, exams, etc)**

* Assignments and/or in class exam:

 They will count for 50% of the final grade.

 The number and nature of assignments/exams (typically two or three) will depend on the number of students enrolled.

* Project: The project will count for the other 50% of the final grade.

**Week-by-Week breakdown**

(for more detailed outline see: <http://www.sce.carleton.ca/cgi-babak/agentcourse.cgi?AgentOverview> )

* Agent Definition and overview
* Agent Knowledge Representation
* Agent Reasoning
* Agent Adaptability
* Interface Agents
* Belief Desire Intentions
* Agent Communication Language
* Multi Agent Systems
* Agent Programming Paradigms, Frameworks and Architectures
* Agent Applications

**General Regulations**

**Student Responsibility:** It is the student's responsibility to remain informed of all rules, regulations and procedures required by their program and by the Faculty of Graduate and Postdoctoral Affairs. Ignorance of regulations will not be accepted as a justification for waiving such regulations and procedures.

**Academic Integrity:** Students should be aware of their obligations with regards to academic integrity. Please review the information about academic integrity at: <https://carleton.ca/registrar/academic-integrity/>. This site also contains a link to the complete Academic Integrity Policy that was approved by the University's Senate.

**Plagiarism:** Plagiarism (copying and handing in for credit someone else's work) is a serious instructional offense that will not be tolerated.

**Deferred Term Work :** Students who claim illness, injury or other extraordinary circumstances beyond their control as a reason for missed term work are held responsible for immediately informing the instructor concerned and for making alternate arrangements with the instructor and in all cases this must occur no later than three (3.0) working days after the term work was due. The alternate arrangement must be made before the last day of classes in the term as published in the academic schedule. For more information, see the current *Graduate Calendar, Academic Regulations of the University, Section 9.3.*

**Academic Accommodation:** You may need special arrangements to meet your academic obligations during the term. You can visit the Equity Services website to view the policies and to obtain more detailed information on academic accommodation at <http://www.carleton.ca/equity/> For an accommodation request, the processes are as follows:

* **Pregnancy or Religious obligation**: Please contact your instructor 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 <https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf>
* **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). **Requests made within two weeks will be reviewed on a case-by-case basis.**After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website ([www.carleton.ca/pmc](http://www.carleton.ca/pmc)) for the deadline to request accommodations for the formally-scheduled exam (if applicable).
* **Survivors of Sexual Violence:** As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and where survivors are supported through academic accommodations as per Carleton’s Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: <https://carleton.ca/sexual-violence-support/>.
* **Accommodation for Student Activities:** Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor 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 <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

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**Health and Safety:** Every student should have a copy of our Health and Safety Manual. A PDF copy of this manual is available online: <http://sce.carleton.ca/courses/health-and-safety.pdf>

**Students from the University of Ottawa:** You can request to have access to cuLearn: please see <http://gradstudents.carleton.ca/forms-policies/>