

Course Outline Template

COMP 5900 for Term Winter 2022 (Preliminary Version)

Autonomous Vehicles

Course Information

Instructor: Doron Nussbaum

Contact: nussbaum@scs.carleton.ca

Classroom: Room location is posted on the public class schedule (online for now)

Lectures: Tuesdays, 8:35 - 11:35 (online for now)

Tutorials: None

Course Website: <https://carleton.ca/brightspace/>

Brightspace for U of Ottawa students: for access, fill out [this form](#) and email it to Grad Studies. (applies only to Grad courses)

Teaching Assistants

None

Course Calendar Description

Autonomous vehicles, such as cars and drones, are taking centre stage around the world. This is an introductory course which will look at technology, algorithms, issues and solutions related to autonomous vehicles. Topics may include, navigation, machine vision, localization, AI, usage of AVs e.g., for transpiration, guarding, search and rescue.

Required Textbook(s) and Other Resources

List all textbooks, course books, online resources or links required for the course.

Course Schedule

Date	
January 11	First class
February 21-25	Winter break
April 12	Last day of classes
April 28	Project is due

Course Assessment

Component	Weight	Details	Due date
Assignments	25%		TBA
Presentations	20%		TBA
Class participation	15%		TBA
Project	40%		TBA

Assignments:

There will be 2-3 assignments during the term. The assignments may be programming assignments, reflection on a topic, etc.

Presentations

Each student will give 2 paper presentations during the term (contribution to general knowledge). A presentation will usually be a paper (at time more than one if related) and carry out a short class discussion on the paper.

Students are expected to read all the papers.

Project

A course project will be selected by the student and can be a programming, research or summary project. The project evaluation will be determined by the quality of the project. A project should include and a problem statement, literature review, research/solution/implementation, and a final paper. Students will also present their project to the class at the end of the term. Note that depending on the complexity and quality of the project, the weight of the project may be 5-10% higher.

Topics Covered

The course topics will follow the some or most of the course description. Details of reading list and paper will be given throughout the term.

Submissions

All assignments, projects, presentations are submitted electronically on Brightspace. Late assignment will not be accepted (unless there is major unforeseen event). Please budget your time. Do not contact me at the last minute for an extension.

Academic Integrity

Carleton university as well as the Faculty of Science have new policies regarding Academic Integrity. Please review the following:

1. Carleton University Academic Integrity can be found here - [Academic-Integrity-Policy-2021.pdf \(carleton.ca\)](#). If the link does not work please look for it in the university policies below.
2. Other university policies can be found here - [University Policies - University Secretariat \(carleton.ca\)](#).
3. Carleton's Ombudsman integrity information can be found here - [Academic Integrity - Ombuds Services at Carleton University](#)
4. Please review the Faculty of Science academic integrity policy and penalties which can be found here - [Academic Integrity | Faculty of Science \(carleton.ca\)](#)

"If you are unsure of the expectations regarding academic integrity (how to use and cite references, how much collaboration with lab- or classmates is appropriate), ASK your instructor. Sharing assignment or quiz specifications or posting them online (to sites like Chegg, CourseHero, OneClass, etc.) is considered academic misconduct. You are never permitted to post, share, or upload course materials without explicit permission from your instructor. Academic integrity offences are reported to the office of the Dean of Science. Penalties for such offences can be found on the ODS webpage: <https://science.carleton.ca/academic-integrity/>."

Important Considerations (Optional- example)

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SCS Computer Laboratory

SCS students can access one of the designated labs for your course. The lab schedule can be found at: <https://carleton.ca/scs/tech-support/computer-laboratories/>. All SCS computer lab and technical support information can be found at: <https://carleton.ca/scs/technical-support/>. Technical support is available in room HP5161 Monday to Friday from 9:00 until 17:00 or by emailing SCS.Tech.Support@cunet.carleton.ca.

University Policies

For information about Carleton's academic year, including registration and withdrawal dates, see [Carleton's Academic Calendar](#).

Pregnancy 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, visit [Equity Services](#).

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, visit <https://carleton.ca/equity/focus/discrimination-harassment/religious-spiritual-observances/>.

Academic Accommodations for Students with Disabilities If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC 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 your instructor as soon as possible to ensure accommodation arrangements are made. For more details, visit the [Paul Menton Centre](#) website.

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 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: 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 [the policy](#).

Student Academic Integrity Policy. Every student should be familiar with the Carleton University student academic integrity policy. A student found in violation of academic integrity standards may be awarded penalties which range from a reprimand to receiving a grade of *F* in the course or even being expelled from the program or University. Examples of punishable offences include: plagiarism and unauthorized co-operation or collaboration. Information on this policy may be found [here](#).

Plagiarism. As defined by Senate, "plagiarism is presenting, whether intentional or not, the ideas, expression of ideas or work of others as one's own". Such reported offences will be reviewed by the office of the Dean of Science. Standard penalty guidelines can be found [here](#).

Unauthorized Co-operation or Collaboration. Senate policy states that "to ensure fairness and equity in assessment of term work, students shall not co-operate or collaborate in the completion of an academic assignment, in whole or in part, when the instructor has indicated that the assignment is to be completed on an individual basis". Please refer to the course outline statement or the instructor concerning this issue.

Brightspace – FGPA Access to Brightspace

University of Ottawa Joint Program graduate students (only) can request access by filling out the [form](#).