Course Information

- **Instructor:** Mark Lanthier (Office 5302HP, Phone: 520-2600x8305, Email: lanthier@scs.carleton.ca)
- **TAs:** Michael Cardy (Email: michaelcardy@cmail.carleton.ca)
- **Class:** Tuesdays and Thursdays from 9:30 am - 11:30 am in room 3115HP

Course Description

This course has been designed to provide you with an introduction to robotics so that you will understand some of the issues involved with building and programming mobile robots. It will give you hands-on experience in working with real hardware that do not always perform as you would expect. The focus is on programming the robots to make use of a variety of sensors and controlling motors.

Topics Covered

- Building and Programming Various Robots
- Motors and Gearing
- Wheeled Locomotion Models
- Position Estimation
- Balancing and Acceleration
- Legged Locomotion Models
- Sensors and Sensor Calibration
- Behavior-Based Programming

Prerequisites

A passing grade in COMP1406 is **required** in order to take this course.

Evaluation

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
<th>Due Date</th>
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</thead>
<tbody>
<tr>
<td>20 Labs</td>
<td>3% each</td>
<td>two each week starting Tuesday, Sept 11th</td>
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<tr>
<td>2 Lab Challenges</td>
<td>5% each</td>
<td>Tuesday, Oct 30th and Tuesday, Nov 13th</td>
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<tr>
<td>Lab Competition</td>
<td>10%</td>
<td>Tuesday, Sept 18th in class</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
<td>(to be announced)</td>
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Laboratory Software

The labs require you to pre-purchase a robotics kit (available from the Science Stores here on campus). All necessary software is freely available on-line. There is no textbook for this course.
Attendance

You MUST attend all classes ... each lab assignment must be completed in the classroom before you leave. 80% of your grade is based on being in the lab each time.

Undergraduate Academic Advisor

The Undergraduate Advisor for the School of Computer Science is available in Room 5302C HP, by telephone at 520-2600, ext. 4364 or by email at undergraduate_advisor@scs.carleton.ca. The undergraduate advisor can assist with information about prerequisites and preclusions, course substitutions/equivalencies, understanding your academic audit and the remaining requirements for graduation. The undergraduate advisor will also refer students to appropriate resources such as the Science Student Success Centre, Learning Support Services and the Writing Tutorial Services.

University Policies

- 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. Some examples of offences are: plagiarism and unauthorized co-operation or collaboration. Information on this policy may be found in the Undergraduate Calendar.

- 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.

- Unauthorized Co-operation or Collaboration
  You are not allowed to work with another student on your labs, each must be completed on your own.

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 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 the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

- 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 the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

- 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. carleton.ca/pmc
• **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 is 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](http://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. [https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf](https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf)

For more information on academic accommodation, please contact the departmental administrator or visit: [students.carleton.ca/course-outline](http://students.carleton.ca/course-outline)