

Summer Job Opportunity for MREN 303 Mechatronics & Robotics Engineering Course Development

On behalf of the Mechatronics & Robotics Engineering program, the Faculty of Engineering & Applied Science at Queen's University will be hiring one undergraduate or graduate student this summer to support the development of hardware, software, and workshop activities for the new course **MREN 303 Mechatronics and Robotics Design III**, which will be offered for the first time in Winter 2024.

In MREN 303, students will apply their growing technical knowledge of mechatronics and robotics, and the formal engineering design process, to solve a multi-parameter design problem. Working in teams, students will work as a small start-up company that needs to come up with a market-specific technology product, while considering the impact of that product on the society and the environment. Each team must prepare a design proposal that describes their product's market need and high-level specifications and schedule its milestones for the 12-week term. In addition, teams are required to create a working hardware/software prototype that is demonstrated before an audience in an internal competition held at the end of the 12 weeks.



Successful candidate will be:

- An undergraduate student who has successfully completed their 3rd year, or a full-time graduate student, in the MME or ECE program or related engineering program
- A recent graduate from an MME, ECE, or related engineering program

Successful candidate will have:

- A solid understanding of the core concepts in engineering design and problem solving, including professional practice, as well as systems design methodology fundamentals;
- A firm grasp of the basics of control and systems engineering, electronic circuits, DC motors and servomotors, as well as sensors frequently used in robotics applications;
- Proficient in computer aided design and hands-on rapid prototyping and assembly OR in computer programming in the C/C++ and Python languages (ideally proficient in both);
- Familiarity with Arduino (and/or other) microcontrollers and Raspberry Pi computers;
- Can work well both independently and collaboratively with others;
- Demonstrated initiative and creativity in engineering (or other) work; and
- Has a keen interest in robotics and mechatronics engineering!

If you are interested, please submit a cover letter, unofficial transcript, and your resume by **Sunday March 5th at 11:59 pm** to Mary Bouchard (m.bouchard@queensu.ca). For undergraduate students, the position will be for 16 weeks of full-time work (normally May to August 2023) at \$17/hour (plus 4% in lieu of vacation). For graduate students, the position will be for 16 weeks, part-time, with a maximum of 10 hours per week of work time. Graduate students must have permission of their supervisor to take on this position.

You must be eligible to work in Canada. For more information on the MRE program, please visit the website: <https://engineering.queensu.ca/programs/undergraduate/mre/> . If you have any questions, please feel free to contact Prof. Wu (amy.wu@queensu.ca) who will be the supervisor. We appreciate all applications, but only those selected for an interview will be contacted.