MIE366H1F: Electronics for Robotics
Course Description: The course provides an introduction to circuit analysis and design for mechatronics applications. The focus is on building a working knowledge of: (1) op-amp circuits, (2) step response, steady-state response, and frequency response, (3) passive and active filter design, and (4) applications of the above to mechatronics systems, including sensors and instrumentation. The course will continue with a study of the fundamental behaviour and specific applications of the major semiconductor devices, including (5) diodes and (6) field effect transistors. Additional 'design assignments' will require students to design real-world viable circuits for mechatronics applications, and laboratory experiments will present additional applications for all circuits being studied.

Schedule: TBD
TA Support: TBD
Course Enrolment (est.): 70
Campus: St. George

- **Date of appointment:** September to December 2020
- **Rate of pay:** as of January 1, 2020 is $10,000 (per half course includes vacation pay). Please note that should rates stipulated in the collective agreement vary from rates stated in this posting, the rates stated in the collective agreement shall prevail.
- **Duties include:** Preparation of lectures and course materials; delivery of lectures; supervision of Teaching Assistants; setting and marking of tests and exams; evaluation of final grades; contact with students. **Please note that this course will be delivered online in Fall 2020.**
- **Qualifications required:** Applicants should have a strong record of presenting lectures or acting as a teaching assistant. Applicants must be able to demonstrate considerable depth of knowledge and experience in the subject area. The applicant must be able to lecture in a clear voice, and explain concepts clearly. Please note that applicants should have excellent communication skills in English - both oral and written work. Professional Engineer (P.Eng.) license or Engineering Intern (EIT) registration required. Successful candidate will be reimbursed for the EIT registration fee.

- **Application Procedure:** See Course Instructor job postings on the department website at [https://www.mie.utoronto.ca/about-mie/careers/](https://www.mie.utoronto.ca/about-mie/careers/) If interested, submit a Course Instructor Application Form, Resume and Teaching Dossier to the MIE Undergraduate Office (MC109) or by email to ugservices@mie.utoronto.ca. If during the application and/or selection process you require accommodation due to a disability, please contact Gayle Lesmond/ ugservices@mie.utoronto.ca. Applicants are required to fill out an application form, which can be found on the department website ([https://www.mie.utoronto.ca/about-mie/careers/](https://www.mie.utoronto.ca/about-mie/careers/)) and returned to: Mechanical Engineering Building, Room 109 or by emailing ugservices@mie.utoronto.ca by **June 30, 2020.** Applicants must include full contact information of their supervisor, plus two U of T employees (faculty or staff) who can testify to the teaching skills of the applicant. The appointment will be made at the earliest possible time before the commencement of classes by the Associate Chair (Undergraduate) of the Department of Mechanical and Industrial Engineering. No other offers or notices of the outcome of applications are authorized by the Department. Final availability of the position is contingent upon final course determination, enrolment, budgetary considerations, and the final determination of assignments flowing from Article 14:03 of the Collective Agreement.