

DEPARTMENT OF MECHANICAL AND INDUSTRIAL ENGINEERING
Faculty of Applied Science and Engineering
University of Toronto

Job Posting for the 2017-2018 Session

This job is posted in accordance with the CUPE 3902 – Unit 1 Collective Agreement.

This posting is for a Course Lecturer for one section of **MIE342H1F – Circuits with Applications to Mechanical Engineering Systems**, to be taught in the Fall term of 2017. Please note that the scheduling of this course is TBD.

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.

MIE342H1F – Circuits with Applications to Mechanical Engineering Systems

This course presents analysis of complex circuits and application of circuit principles to design circuits for mechanical engineering systems. Discussions will centre around circuits and instrumentation. In-depth discussions will be given on a number of topics: (1) Mechatronics design applications of circuit principles; (2) Network theorems, node-voltage, mesh-current method, Thévenin equivalents; (3) Operational amplifier circuits; (4) 1st and 2nd order circuits; (5) Laplace transform, frequency response; (6) Passive and active filter design (low- and high-pass filters, bandpass and bandreject filters); (7) Interface/readout circuits for mechanical engineering systems, sensors, instrumentation; (8) Inductance, transformers, DC/AC machines; (9) Digital circuit and data sampling introduction.

Note for applicants: **P.Eng designation is strongly preferred. EIT eligible a mandatory requirement.**

- The date of appointment will be from September through December 2017.
- Minimum level of pay is \$6,753.88 (half-course), which includes vacation pay, and may increase depending on applicant's level of experience and suitability for the position.
- 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. A license to practice engineering in Canada is preferred.
- Applicants are required to fill out an application form, which can be picked up from and returned to: Mechanical Engineering Building, Room 109 or by emailing ugservices@mie.utoronto.ca by **July 21st, 2017**. 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.
- Please note that applicants should have excellent communication skills in English - both oral and written work.