The Department of Electrical and Computer Engineering in the Faculty of Engineering and Applied Science at Queen’s University requests applications from suitably qualified candidates interested in teaching the following undergraduate course in the 2018-19 session.

**Qualifications:**
Minimum of a M.A.Sc. in Engineering or a related field, or a BASc in Engineering with extensive practical experience in engineering communications. Previous teaching experience at the University level will be preferred. Candidates should have excellent communication and presentation skills.

**Teaching requirement:**
Winter Term Course: January 1, 2019 – April 30, 2019

Anticipated course enrolment: 40

Course Description

**ELEC 444**

Mechatronics is an ever growing area, which we all benefit from on a daily basis. Nowadays mechatronic systems are in all aspects of our lives from smart phones or kitchen appliances, or automobiles to medical devices. Mechatronics is at the junction of four major disciplines including mechanics, electronics, computer and control systems. The focus of this introductory course is on the control systems aspect of mechatronics. One challenge in the design of controllers is the hybrid nature of these systems, as they are often composed of continuous-time plants to be controlled and discrete-time controllers that are implemented in computer. The connection between these two components is made via data acquisition systems consisting of analog-to-digital and digital-to-analog converters. These systems are also called sampled-data systems. In this course will build upon your knowledge in discrete-time signal and systems (ELEC-324), sensors and actuators (ELEC-344) and continuous-time linear control systems (ELEC-443). In particular, we will learn about dynamic models of mechatronic systems as well as the design of discrete-time controllers to meet certain stability and performance criteria.

**PREREQUISITE(S):** ELEC 324, ELEC 344, ELEC 443

Course summary can be found at: [https://www.eee.queensu.ca/undergraduate/courses/elec-444.html](https://www.eee.queensu.ca/undergraduate/courses/elec-444.html)

The above advertised course will be taught on campus. Winter term classes begin January 07, 2019.

Queen’s University is committed to employment equity and diversity in the workplace and welcomes applications from women, visible minorities, aboriginal people, persons with disabilities, and persons of any sexual orientation or gender identity. All qualified candidates are encouraged to apply; however, Canadians and permanent residents of Canada will be given priority. Academic staff
at Queen’s University is governed by a collective agreement between QUFA, QUFA and Queen’s University.

The University will provide support in its recruitment processes to applicants with disabilities, including accommodation that takes into account an applicant’s accessibility needs. If you require accommodation during the interview process, please contact Mary Gillespie mary.gillespie@queensu.ca.

Applications should include a complete and current curriculum vitae, a statement of teaching experience, the names and contact details of two referees who may be contacted, and any relevant other materials the candidate wishes to submit for consideration. Applications can be submitted to the ECE Appointments Committee at the address below, or by e-mail to Mary Gillespie, mary.gillespie@queensu.ca. Applications should arrive no later than 31 October 2018.

Electrical and Computer Engineering Appointments Committee
c/o Mary Gillespie, Administrative Assistant
Department of Electrical and Computer Engineering
Walter Light Hall, Room 416
Queen’s University
Tel. 613 533- 6000 Ext: 75344
Fax. 613 533-6615