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 an M.Sc. (or equivalent industry design experience) in Electrical & Computer Engineering or a related field, expertise in the field relevant to the course, and appropriate teaching experience. Previous educational background and/or experience must be suited to teaching the course described below. Candidates must have excellent communication and presentation skills, as well as be capable of working as a member of a teaching team. Prior teaching experience in project based engineering courses and lecture-based engineering courses would be a strong asset.

**Teaching requirement:**

Winter Term Course: January 1, 2019 – April 30, 2019

Anticipated course enrolment: 40

Course Description

**ELEC 444**

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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 in 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.ece.queensu.ca/undergraduate/courses/elec-444.html](https://www.ece.queensu.ca/undergraduate/courses/elec-444.html)

The above advertised course will be taught on campus. The successful applicant will have 100 percent responsibility for the course.
Queens 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. Teaching Fellows at Queen's University are governed by a collective agreement between Public Service Alliance of Canada (PSAC), http://www.queensu.ca/humanresources/employees/unions.html 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