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

Winter Term Course: January 1, 2020 – April 31, 2020

Anticipated course enrolment: 63

Course Description

ELEC 408 – Biomedical Signal and Image Processing

Description

This course presents a number of topics in biomedical engineering, as related to electrical engineering. The course comprises 3 modules; in any given year, two of the three modules will be covered. The Bioinstrumentation and Biosensors module covers: basic concepts of bio-potential generation; bio-signal detection using metal electrodes; electrocardiogram; amplifiers and filter design for bio-signal recording; and design considerations. The Bioinformatics module covers: microarray data analysis methods; pattern discovery, clustering and classification methods; applications to prediction of clinical outcome and treatment response; coding region detection and protein family prediction. The Medical Imaging module covers: 2D and 3D image formation; fluoroscopy, ultrasound, computed tomography, and magnetic resonance imaging; spatial and frequency-domain filtering and feature extraction; applications in diagnostics, therapeutics, and interventions. The overall course builds on fundamentals of signal processing from ELEC324 and probability from ELEC326.

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. Preference will be given to candidates who are registered as professional engineers in the province of Ontario.

Course Syllabus can be found at: https://www.ece.queensu.ca/undergraduate/courses/elec-408.html

The above advertised course will be taught on campus. Winter term classes begin 06 January 2020.

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.

To comply with Federal laws, the University is obliged to gather statistical information about how many applicants for each job vacancy are Canadian citizens/permanent residents of Canada. Applicants need not identify their country of origin or citizenship, however, all applications must include one of the following statements: I am a Canadian citizen/permanent resident of Canada; OR, I am not a Canadian citizen/permanent resident of Canada. Applications that do not include this information will be deemed incomplete.

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 email to Mary Gillespie at mary.gillespie@queensu.ca. Applications should be received no later than November 8, 2019.

Electrical and Computer Engineering Appointments Committee  
C/o Mary Gillespie, Administrative Assistant  
Department of Electrical and Computer Engineering  
Walter Light Hall, Room 416  
19 Union Street  
Queen’s University  
Kingston, ON  K7L 3N6  
Tel.: 613-533-6000 ext.75344  Fax: 613-533-6615