



**DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING**  
**FACULTY OF ENGINEERING AND APPLIED SCIENCE**  
**Term Adjunct Position**  
**Academic Year 2023-2024**

**Posting Date: May 10, 2023**  
**Closing Date: June 07, 2023**

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 2023-2024 session.

**ELEC 431 – Power Electronics**  
**Fall Term Course: September 1, 2023 – December 31, 2023**

**Description**

**ELEC 431 Power Electronics | Units: 3.25**

This course introduces the basic concepts of power electronics, which include power semiconductor devices and switching power converters. Emphasis is placed on the analysis and design of various power electronics circuits. Their industrial application, such as in telecommunications and computing, will also be discussed. More specifically, the course will cover the characteristics of switching devices, especially that of MOSFET. The course will also cover the operation of various switching converters such as phase controlled AC-to-DC converters, AC voltage controllers, DC-to-DC switching converters, DC-to-AC inverters and switching power supplies. The requirements and configurations of power systems for telecommunications will be introduced. The techniques to analyze and design these power systems using available components will also be discussed. Computer simulation will be used to analyze the detailed operation of switching converters.

**Requirements:** ELEC 252

**Offering Term:** F

The anticipated enrollment: 60

**Qualifications:**

Minimum of a M.A.Sc. Degree in Engineering or a related field, or a B.A.Sc. Degree in Engineering with extensive practical experience in engineering communications. Registered as a Professional Engineer (or an Engineer in Training) in the Province of Ontario. 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-431.html>

**Teaching requirement:**

The above advertised course will be taught on campus. Fall term classes begin on September 05, 2023.

Queen's University is committed to employment equity and diversity in the workplace, and it invites applications from all qualified individuals. Queen's is strongly committed to employment equity, diversity, and inclusion in

the workplace and encourages applications from Black, racialized/visible minority and Indigenous/Aboriginal people, women, persons with disabilities, and 2SLGBTQ+ persons. 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](mailto:mary.gillespie@queensu.ca).

Prior to May 1, 2022, the University required all students, faculty, staff, and visitors (including contractors) to declare their COVID-19 vaccination status and provide proof that they were fully vaccinated or had an approved accommodation to engage in in-person University activities. These requirements were suspended effective May 1, 2022, but the University may reinstate them at any point.

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, [Mary.gillespie@queensu.ca](mailto:Mary.gillespie@queensu.ca).

Applications should be received no later than June 07, 2023.

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