



Department of Electrical and Computer Engineering

401 Sunset Avenue, Windsor
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2021 FALL OVERLOAD/SESSIONAL APPOINTMENTS

In accordance with section 54:07 of the 2017-2021 Collective Agreement the Windsor University Faculty Association (WUFA), Department of Electrical and Computer Engineering invites applications from qualified individuals interested in teaching the following course(s), subject to final budgetary approval, course enrollment and appointment of new full-time faculty.

Applicants are required to review University of Windsor Senate Bylaw 51 (Academic Evaluation Procedures) and Article 5:23 to 5:25 of the Collective Agreement with WUFA. Full documentation is available online by visiting the University of Windsor website (www.uwindsor.ca).

GENG-3500- Signals and Systems Analysis

Discrete and Continuous-Time Signals and Systems, Discrete and Continuous-Time Linear Time-Invariant Systems, System Analysis in Time Domain, System Analysis in Frequency Domain, Convolution, Differential Equation Models, Fourier series, the Fourier Transform, the Laplace Transform and it's Applications, Sampling of Systems.
(3 lecture hours a week) **(Section 60: Course for BEng Tech Students)**

GENG-4300- Intelligent and Digital Manufacturing

Manufacturing methods are shifting towards smart tools that are adaptive and self-aware. This course will introduce concepts and components for intelligent machining tools and interfacing them with digital manufacturing that will create the knowledge of Industry 4.0. Integration of smart sensors and controls, data processing, interconnected machines, digital link between design and production, analysis of manufacturing processes and supply chains will be discussed.
(3 lecture hours a week) **(Section 60: Course for BEng Tech Students)**

GENG-4400 – Energy Conversion Systems

This course covers the fundamental principles of energy conservation processes. Design analysis, and construction of modern electromechanical systems, mechanical transmission systems, measurement of mechanical motion, and implementation of electromechanical coupling. DC and AC machinery fundamentals, electromechanical energy conversion, synchronous and induction motors, motion and controls of electromechanical systems will be discussed. Hands-on lab with modelling and simulation of multi-domain electromechanical systems. The course also introduces the use of modern energy conversion systems which may include conventional combustion based and Rankine power systems, energy systems for space applications, Autonomous vehicle applications, solar, wind, wave, thermoelectric, and geothermal energy systems.
(3 lecture hours a week) **(Section 60: Course for BEng Tech Students)**

GENG-4800 – Capstone Mechatronics

A team-based Mechatronics Capstone Project will integrate and realize all the technical skills and hands-on experience the students have acquired throughout their program. Students will be organized into teams of three or four students, each team will be proposing, conceptualizing, designing, building and demonstrating a significant hands-on mechatronic project. Skills deployed during this project include: creative thinking, engineering design, documentation and implementation, team work, presentation, engineering standards and entrepreneurship.
(3 lecture hours a week) **(Section 60: Course for BEng Tech Students)**

GENG-8010 – Engineering Mathematics

The course will cover topics in advanced modern engineering mathematics not addressed in earlier courses and considered to be crucial for more advanced engineering courses at the graduate level. These topics include matrix and numerical analysis, advanced topics in calculus and their application to engineering design problems, and optimization. In particular tools for computer-based system modelling, analysis and engineering design will be addressed. (Open to Masters of Engineering students, excluding students in the MEng Auto Program. Open to engineering MaSc/PhD students on permission of the department/faculty as a qualifying course only. Will not count for credit towards MASc/PhD degree.)
(3 lecture hours a week) **(Section 33: Additional Section required)**

GENG-8030 – Computational Methods and Modeling for Computer Applications

This course covers the basics of computational analysis for real-world engineering applications. Students will learn the fundamentals of programming and modeling with MATLAB. Topics include: Computational Methods, Model Building, for Engineering Projects, Hardware for Real-time Testing, Data Acquisition from Sensors. Students will complete a real-world project in the areas of their interests.
(3 lecture hours a week) **(Section 3 & 4 & 5: Additional Sections required)**

Please be aware that this course posting requires the course to be offered using alternative learning technology in an online environment. To learn about what resources are available to learn and use these technologies please contact the Office of Open Learning or the Centre for Teaching and Learning.

Applicants who wish to be considered for the privilege of Employment Equity need to self-identify themselves as members of the Targeted groups. With the exception of exemptions identified under Section 54:08 (a) of the WUFA Collective Agreement, all applicants are required to submit official teaching evaluations (SET scores) or equivalent of all courses they have taught along with an updated CV. Only applicants with a background in **Electrical & Computer Engineering or related fields** will be considered. Applicants who have not taught previously in the Department will be asked to complete an Engineering Academic Application for Employment and will be required to submit three (3) letters of reference and teaching evaluations to:

Dr. Behnam Shahrrava,
Department Head
Department of Electrical & Computer Engineering
Faculty of Engineering, University of Windsor, Windsor, Ontario, N9B 3P4
EMAIL: ece@uwindsor.ca

Closing date for applications: Monday July 19th at 12:00 noon
Please note that only successful candidates will be contacted.

The University of Windsor is committed to employment equity and welcomes applications from Aboriginal Peoples, persons with disabilities and members of visible minorities. Applications from women are particularly encouraged. Applicants who wish to be considered for the privilege of Employment Equity need to self-identify themselves as a member of the targeted groups. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada.

For additional information, please contact the Department of Electrical and Computer Engineering (ece@uwindsor.ca).

Distribution:

Dr. M. Saif, Dean, Faculty of Engineering

Dr. M. Ahmadi, Associate Dean, Research & Grad Studies, Engineering

Dr. R. Bowers, Associate Dean - Academic, Faculty of Engineering

Dr. A. Sobiesiak, Head, MAME

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Windsor University Faculty Association (WUFA)

Ms. D. Gabriel, Secretary to the Associate Dean, Research & Grad Studies, Engineering

Ms. M. Hatt, Administrative Assistant, Engineering

Ms. J. Asuncion, Manager, Finance & Administration, Engineering

Ms. D. Loughheed, Secretary to the Associate Dean, Engineering

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