

2019 WINTER 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).

06-88-590/ELEC-8900 - Special Topics: Advance Energy Storage Systems for Electrification of Vehicles

General background on alternative energy sources and sustainability Introduction to electric-based transportation. Overview of Land-Marine-Space vehicle electrification. Description of vehicle dynamics and dynamic equations. Vehicle performance, and fuel economy characteristics. Basic concept of regenerative braking energy. **cross listed with 06-92-590/MECH-8290**

Course Offered Online

06-85-545/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: Fourier series and Fourier transforms, with applications in the frequency domain modelling, solution of partial differential equations with applications in continuum mechanicals and electromagnetism, solution of integral equations with applications in acoustics and aerodynamics. (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).

Offered evenings

06-85-460/GENG-4600 - Introduction to Robotics

This course is an introduction to robotics modeling, dynamics, and control of robotic manipulators and industrial motion control. Students study Kinematics and Dynamics of Machines and will be exposed with principles of the geometry of motion, Uniform and non-uniform motion, linkage, gears, cams. Students will be exposed to the operation, programming and applications of a typical industrial robot using the actual and simulation tools. Hands-on activities will include manual teach programming, testing with simulation software and programming of advance movements.

Offered Friday evenings or Saturdays

06-85-440/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.

Offered Friday evenings or Saturdays

06-88-590/ELEC-8900 - Data Mining

With fast advances in information technology, there has been an explosive growth in our capabilities to generate and collect data in the last decade. How to analyze the large amount of data in an understandable and efficient way remains a challenging problem. Data mining addresses this problem by providing methodologies to automate the analysis and exploration of large complex data sets. This course will cover the basic topics of data analysis and data mining to extract patterns and underlying knowledge from data and transform it into an understandable structure for further use, for instance, in machine learning, predictive analytics, process control, fault diagnosis, monitoring and decision making. In this class, various computational data mining techniques at the intersection of artificial intelligence, machine learning and statistical learning will be introduced and considerable efforts will also be given on their implementation, strengths and weaknesses for different applications. Students must have a strong background in mathematics. **Cross-listed with 06-87-590/CIVL-8900: 06-91-590/INDE-8900 and 06-92-90/MECH-290**

06-88-590/ ELEC-8900 - Industrial Control Syst: DCS, SCADA, PLC

This course provides the fundamentals of industrial Control Systems (ICS). The subject covers in-depth principles of Distributed Control Systems (DCS), Supervisory Control and Data Acquisition (SCADA), and Programmable Logic Controllers (PLC). Students will undertake project work to design an industrial process automation solution. This course provides the fundamentals of industrial Control Systems (ICS). The subject covers in-depth principles of Distributed Control Systems (DCS), Supervisory Control and Data Acquisition (SCADA), and Programmable Logic Controllers (PLC). Students will undertake project work to design an industrial process automation solution.

cross listed with 06-92-560/MECH-8290

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 (available at this website: https://www.uwindsor.ca/engineering/mame/sites/uwindsor.ca/engineering.mame/files/sessional_application_form_fall_2018.pdf) and will be required to submit three (3) letters of reference and teaching evaluations to:

Dr. Behnam Shahrrava, Acting Department Head
Faculty of Engineering, Electrical & Computer Engineering
University of Windsor, Windsor, Ontario, N9B 3P4
or by e-mail to: ece@uwindsor.ca

Closing date for application(s) is: October 1st, 2018
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.

Sincerely,

Dr. Behnam Shahrrava, Acting Department Head
Faculty of Engineering, Electrical & Computer Engineering

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Windsor University Faculty Association (WUFA)

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