University of Windsor

Department of Electrical and Computer Engineering
401 Sunset Avenue, Windsor
Ontario, Canada N9B 3P4
T 519 253 3000 (2570) F 519 971 3695
ece@uwindsor.ca

2022 FALL SESSIONAL/OVERLOAD APPOINTMENTS

In accordance with section 54:07 of the 2021-2025 WUFA Collective Agreement, the 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 encouraged to review Senate Bylaws (Bylaw 54: Undergraduate Academic Evaluation Procedures, and Bylaw 55: Graduate Academic Evaluation Procedures), and the 2021-2025 WUFA Collective Agreement Article 54:07 (Posting Procedures). Full documentation is available online by visiting the University of Windsor website **online**.

ELEC-8560 – Computer Networks
This course will cover concepts and protocols which enable heterogeneous computer networks to work with each other, including transport (TCP, UDP), network (IP, IPng), routing (RIP, OSPF), network management (SNMP, SNMPv2, RMON), and other important protocols like ARP, ICMP, DNS, BOOTP, DHCP and HTTP. Advanced topics like Mobile IP, real-time and reservation protocols (RTP, RSVP), IP multicast (IGMP, MBONE) and network security will also be examined. Emphasis will be on broad coverage, as well as hands-on programming experiences. Local area networks, performance of queueing, multiple access schemes, IEEE802 standards, wireless LANs and wireless personal area networks will also be covered.
Prerequisite: Graduate Student Status. (3 lecture hours per week.)

ELEC-8600 – Reconfigurable Computing
History and evolution of reconfigurable computing (RC) systems; FPGA-based and multi-FPGA systems, CAD mapping tools, run-time reconfiguration, study of recent RC systems from academia and industry targeting a wide range of applications. Literature review and paper presentation on specific topics is also required. The course may require a mix of project and assignments.
Prerequisite: Graduate Student Status. (3 lecture hours per week.)

ELEC-8900-04 – Special Topics: Information Transmission Systems
The course covers three fundamental aspect of digital information transfer from source to destination. It is a introductory course for students who would like to specialize in communication systems. The three aspects are Information Theory, Digital Modulation, and Computer Communications. Information theory covers source coding and channel coding. Source coding primarily investigates how to measure digital information using concept of entropy, lossy and lossless data compression techniques, and their limits. Channel coding investigates limits on how much information can be transferred through a channel error free using error detection and correction techniques. Second aspect of the course explain digital modulation techniques, where information is transferred from an abstract bit to a waveform representation to the best fit into a physical channel such as wireless or wired using transmitter and receiver techniques. The last aspect of the course investigates layered computer communication system. In that, OSI and Internet layered models are investigated along with reliable communication principles, and queueing theory for delay analysis.
(3 lecture hours per week.)

ELEC-8900-115 – Special Topics: Design of AC Machines
This course is specifically offered to the graduate students with the basic knowledge on electric machines to cover the most important concepts on design of AC electric machines. Step-by-step procedure to electromagnetically design of AC electric machineds e.g., induction machines and Permanent Magnet (PM) machines, is covered in the course by discussing about the principles of magnetic circuits, field distribution and losses in rotating machines.
(3 lecture hours per week.)

GENG 8010 – Engineering Mathematics
The course will cover topics in advanced modern engineering mathematics not addresses 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 engineeirng design will be addressed. (Open to Masters of Enigneering 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.)
(Additional Section #3) (3 lecture hours a week)

GENG-8030 – Computational Methods & Modeling for Engineering 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.
(Sections #3, 4, 5, 6) (Each Section- 3 lecture hours a week)

Applicants who wish to be considered for the privilege of Employment Equity need to self-identify themself 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: Wednesday June 8th, 2022 at 12:00 pm
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:
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