Ottawa-Carleton Institute for Electrical Engineering

Room C406
Colonel By Hall
University of Ottawa

The Institute

Director of the Institute:
Emil Petriu

Established in 1983, the institute combines the research strengths and resources of the Departments of Electronics and of Systems and Computer Engineering at Carleton University and the Department of Electrical Engineering at the University of Ottawa. Programs leading to master's and Ph.D. degrees are available through the institute in a wide range of fields of electrical engineering. Graduate students may pursue their research on either university campus, depending upon the choice of supervisor. Registration will be at the university most appropriate to the student's program of studies and research.
Requests for information and applications for admission should be sent to the director of the institute.

Members of the Institute

The "home" department of each member is indicated by (OE) for the Department of Electrical Engineering, University of Ottawa; (CE) for the Department of Electronics, Carleton University; (SCE) for the Department of Systems and Computer Engineering, Carleton University.

T. Aboulnasr, *Digital Signal Processing* (OE)
N.U. Ahmed, *Systems Theory, Optimal Control, Filtering and Reliability* (OE)
Sami Aly,* *Signal Processing, Digital Transmission* (SCE)
Prakash Bhartia, *Microwaves, Antennas, Instrumentation* (OE)
A.R. Boothroyd, *Solid State Devices, ICs, CAD* (CE)
R.J.A. Buhr, *Software Engineering, Protocols, CAD of Computer Systems* (SCE)
R.J.C. Bultitude,* *Digital Radio, Propagation, Mobile and Portable Radio Systems* (SCE),
C.H. Chan, *VLSI Circuits, Systems* (CE)
J.W. Chinneck, *Computer Modeling, Operations Research* (SCE)
J.-Y. Chouinard, *Mobile Communications, Digital Channel Modeling, Information Theory* (OE)
J. Chrostowski, * *Photonics, Sensors* (OE)
Sorin Cohn-Sfectu, *Telecommunications* (OE)
D.C. Coll, *Telecommunications and Computers* (SCE)
M.A. Copeland, *ICs, Analog Signal Processing, CAD* (CE)
George Costache, *Electromagnetic Engineering* (OE)
S.R. Das, *Digital Circuits, Computer Architecture, Faults in LSI/VLSI Systems* (OE)
N.W. Dawes,* *Artificial Intelligence, Expert Systems* (SCE)
M. El-Tanany, *Mobile Communications, Spread Spectrum Systems, Wave Propagation* (SCE)
D.D. Falconer, *Digital Communications, Signal Processing, Digital Subscriber Loops* (SCE)
K. Feher, *Digital Communications, Transmission, Modulations* (OE)
Peter Galko, *Communications* (OE)
N.D. Georganas, *Computer-Communications, Mobile Radio* (OE)
D.T. Gibbons, *Digital and Biomedical Electronics, Microprocessors* (OE)
K.R. Goheen, *Controls, CAD/CAM/CIM* (SCE)
Morris Goldberg, *Image Processing, Pattern Recognition* (OE)
David Goodenough, *Remote Sensing, Artificial Intelligence, Image Analysis* (OE)
R.A. Goubran, *Digital Systems Design, Mobile Communications* (SCE)
T.A. Gulliver, *Spread-spectrum Communications and Algebraic Coding Theory* (SCE)
H.M. Hafez, *Digital Modulation Techniques, Packet Radio Switching, Cellular Digital Radio*(SCE)
R.G. Harrison, *Microwaves, Non-linear Processes*(CE)
W.J.R. Hoefer, *CAD/CAM of Microwave Circuits, Numerical Methods* (OE)
M.J. Hunt, *Speech Technology, Solid State NMR, Pattern Recognition* (OE)
Dan Ionescu, *Digital Computers, Computer Process Control, Machine Vision* (OE)
A. Javed, *Communications* (OE)
G.M. Karam, *Software Engineering, Concurrent Systems, Logic Programming* (SCE)
Mohsen Kavehrad, *Digital Communications, Photonic Networks, Mobile and Portable Communications* (OE)
A.R. Kaye, *Office Technology, Embedded Knowledge Systems, Computer Networks* (SCE)

* Adjunct Research Professor

J.P. Knight, *Logic Design, Computer-Aided IC Design* (CE)
Mahshad Koohgoli,* *Digital Signal Processing, Mobile Communications* (SCE)
Moshe Krieger, *Computer Architecture, Microprocessor, CAM* (OE)
T.A. Kwasniewski, *Digital and Analog Signal Processing, Microprocessors* (CE)
J.-Y. Le Boudec, *Communications Systems* (SCE)
M.C. Lefebvre, *Computer-Aided I.C. Design, VLSI Design* (CE)
J.H. Lodge,* *Communications* (OE)
S.A. Mahmoud, *Distributed Databases, Radio Packet Switching, Communication Network Protocol* (SCE)
Shikaresh Majumdar, *Parallel and Distributed Systems* (SCE)
L.S. Marshall,* *Software Engineering, Software Validation and Formal Specification Tools* (SCE)
William McGee,* *Communications Circuits* (OE)
J.W. Miernik,* *Teletraffic Engineering, Computer Networks and Discrete Simulation* (SCE)
L.R. Morris, *Signal Processing, Minicomputers, Computer Graphics, Software* (SCE)
M.S. Nakhla, *CAD for VLSI*(CE)
Michel Ney, *Electromagnetic Engineering* (OE)
M.D. O'Riain,* *Biomedical* ***(OE)***
Bernard Pagurek, *Queuing, Databases* (SCE)
R.D. Peacock, *Artificial Intelligence* (SCE)
D.C. Petriu, *Performance Evaluation, Software Engineering, Database Systems* (SCE)
Emil Petriu, *Computer Engineering, Robotics* (OE)
Calvin Plett, *Analog I.C. Design* (CE)
A.S. Podgorski, *Electromagnetics* (OE)
Surendra Rawat, *Communications* (SCE)
J.S. Riordon, *Distributed Databases, Radio Packet Switching, Systems Modeling* (SCE)
H.M. Schwartz, *Automation, Robotics, Controls* (SCE)
A.U.H. Sheikh, *Mobile and Personal Communications, Packet Networks* (SCE)
T.J. Smy, *Solid State Sensors, Fabrication* (CE)
W.J.D. Steenaart,* *Digital Communications, Signal Processing* (OE)
M. Stubbs, *Monolithic Microwave Integrated Circuits* (CE)
M.A. Stuchly, *Biological Effects of Microwaves* (OE)
S.S. Stuchly,* *Microwaves, Antennas, Instrumentation* (OE)
B.A. Syrett, *Microwaves, Fiber Optical Communications* (CE)
N.G. Tarr, *Solid State Devices, Fabrication* (CE)
R.E. Thomas, *Solid State Technology, Solar Energy* (CE)
P.D. van der Puije, *Circuit Synthesis, Biomedical Engineering* (CE)
D.J. Walkey, *CAD for VLSI, IC Design* (CE)
J.S. Wight, *Phase-locked Circuits, Microwaves, Antennas, Radar, Spread Spectrum* (CE)
C.M. Woodside, *Computer Performance, Queuing, Distributed System Design* (SCE)
O. Yang, *Computer Communications* (OE)
A. Yongaçoglu, *Digital Communications Coding and Modulation* (OE)

Master's Degree

Admission Requirements

The normal requirement for admission to a master's program is a bachelor's degree with at least high honors standing in electrical engineering or a related discipline.

Program Requirements

The requirements for course work are specified in terms of credits: one credit = one hour/week for one term. Subject to the approval of the departmental chair, a student may take up to half of the course credits in the program in other disciplines (e.g., Mathematics, Computer Science, Physics).

At the University of Ottawa, master's programs with a thesis earn the Master of Applied Science degree, while other master's programs earn the Master of Engineering degree. At Carleton University, all master's programs earn the Master of Engineering degree.

Master's Degree by Thesis

- eighteen course credits plus thesis

Master's Degree by Course Work

- twenty seven course credits plus a project (nominally six credits)

Cooperative Master's Degree by Thesis

- eighteen course credits plus a thesis

Cooperative Master's Degree by Course Work

- twenty four course credits plus two projects (each conducted in one work term)

Participation in the cooperative master's program is subject to acceptance by a suitable sponsoring organization.

Doctor of Philosophy

Admission Requirements

The normal requirements for admission into the Ph.D. program is a master's degree with thesis in electrical engineering or a related discipline.

Program Requirements

The requirements for course work are specified in terms of credits: one credit = one hour/week for one term. Subject to the approval of the advisory committee, a student may take up to half of the

course credits in the program in other disciplines (e.g., Mathematics, Computer Science, Physics).

- A minimum of fourteen course credits
- A comprehensive examination involving written and oral examinations and a written thesis proposal, to take place before the end of the fourth term of registration
- A thesis which must be defended at an oral examination

Graduate Courses

In all programs, the student may choose graduate courses from either university with the approval of the adviser or advisory committee. Course descriptions may be found in the departmental section of the calendar. All courses are of one term duration. Only a selection of courses listed is given in a particular academic year. The following codes identify the department offering the course.

Carleton University

94 Department of Systems and Computer Engineering

97 Department of Electronics

University of Ottawa

92 Department of Electrical Engineering

The CSI designation refers to the Department of Computer Science at the University of Ottawa. The ELG designation refers to the Department of Electrical Engineering at the University of Ottawa.