

The Department of Electronics is seeking qualified contract instructors for the following courses. **To satisfy program accreditation requirements instructors for all undergraduate courses must have current P.Eng. status in Canada.**

Winter Term 2019

For winter term courses, applications will be accepted until November 1, 2018. Please submit a CV and statement of interest in pdf format to chair@doe.carleton.ca.

ELEC 2607 [0.5 credit]

Switching Circuits

Boolean algebra, gate, combinatorial circuits. DeMorgan notation, sum-of-product and product-of-sum forms. Logic arrays, PLAs and PALs. Flip-flops, latches, sequential circuits, state graphs and state minimization. Counters and controllers. Hazards. Asynchronous sequential circuits, race free assignment, realization.

Precludes additional credit for SYSC 2607/SYSC 3607 or ELEC 3607.

Prerequisite(s): [PHYS 1004](#) or [PHYS 1002](#).

Lectures three hours a week, laboratory three hours alternate weeks.

For accreditation purposes, eligible instructors must have P.Eng. status in Canada.

SREE 3002 [0.5 credit]

Electricity: Use, Distribution, Integration of Distributed Generation

Electricity use in Ontario: rates, government incentives, smart use. Electricity Distribution: topology, reliability, load characteristics, voltage regulation, power loss, capacitors, economics of optimum choice, system protection. Distributed Generation: guides and regulations, case study.

Prerequisite(s): [SREE 3001](#), [ELEC 4602](#) and ([ELEC 2501](#) or [ELEC 3605](#)).

Lectures three hours per week, laboratories three hours per week alternate weeks.

For accreditation purposes, eligible instructors must have P.Eng. status in Canada.

ELEC 3909 [0.5 credit]

Electromagnetic Waves

Maxwell's equations and EM wave solutions. Polarization. Poynting vector. EM waves in dielectrics and conductors; skin depth. Reflection and refraction. Standing waves. Fresnel relations, Brewster angle. Transmission lines. Line termination, basic impedance matching and transformation. Smith charts. Introduction to guided waves; slab waveguide.

Precludes additional credit for [PHYS 3308](#).

Prerequisite(s): [ELEC 3105](#) or permission of the Department.

Lectures three hours a week, problem analysis three hours alternate weeks.

ELEC 4504 [0.5 credit]

Avionics Systems

Electromagnetic spectrum. Air data sensing, display. Communications systems. Navigation and landing systems; ground-based, inertial and satellite systems. Airborne radar. Guidance, control for aircraft, autopilots; stability augmentation; active control; sensor requirements; display techniques. Aircraft power systems. Safety systems. Vehicle/systems integration, certification.

Precludes additional credit for AERO 4504.

Prerequisite(s): fourth-year status in Engineering. Not open to students in Electrical Engineering, Computer Systems Engineering, Aerospace Stream C Engineering, Engineering Physics or Communications Engineering.

Lecture three hours a week.

ECOR 4995 [0.5 credit]

Professional Practice

Presentations by faculty and external lecturers on the Professional Engineers Act, professional ethics and responsibilities, practice within the discipline and its relationship with other disciplines and to society, health and safety, environmental stewardship, principles and practice of sustainable development. Communication skills are emphasized.

Precludes additional credit for MAAE 4905, CIVE 4905, SYSC 3905 or ELEC 3905.

Prerequisite(s): fourth-year status in Engineering.

Lectures three hours a week.

For accreditation purposes, eligible instructors must have P.Eng. status in Canada.

** A note to all applicants:* As per Articles 16.3 and 16.4 in the CUPE 4600-2 Collective Agreement, the posted vacancies listed above are first offered to applicants meeting the incumbency criterion. A link to the current CUPE 4600-2 Collective Agreement can be found at the Employment Agreements webpage on the Carleton University Human Resources website <https://carleton.ca/hr/labour-relations/academic-staff-agreements/#sect3> and the CUPE 4600-2 website <http://4600.cupe.ca/>.