May 1, 2011

STUDENT NAME
ADDRESS

Subject: Important Notes and Curriculum Changes in the 2011-2012 Calendar

Dear Student,

Each May, all students enrolled in the **Electrical Engineering** program are mailed a letter advising them of curriculum changes that have occurred since their entry into the program. This letter, including past ones, can also be viewed at the following website: http://www.encs.concordia.ca/current-students/undergraduate-program-requirements/course-sequences/electrical-engineering/

This letter is to advise you of any additional changes that will appear in the 2011-2012 Calendar which may affect your selection of courses. Should you have any questions regarding this issue, please do not hesitate to contact Student Academic Services at (514) 848-2424, extension 3055.

You can view the program requirements and course descriptions at the following website: http://registrar.concordia.ca/calendar/pdf/calendar_pdf.html

VERY IMPORTANT: Students must have completed all 200-level courses required from their program before they can register for *any* 400-level course.

Students are required to graduate having met the substantial equivalent of the curriculum in force in the Winter Term prior to degree conferral.

You must apply for graduation. Graduation Application deadlines:
Spring Convocation January 15th, Fall Convocation July 15th.
Additional information can be viewed at the following website:
http://registrar.concordia.ca/convo/gradapp.html.

1. Changes to the Engineering Core

There are no changes to the Engineering Core

2. Electrical Engineering Core

There are no changed to the Electrical Engineering Core

3. Changes to the Electrical Engineering Options

The options for Electrical Engineering have been changed, the old options will be phased out, and new options listed below will be offered starting June 2011. In addition to the new options students in Electrical Engineering will have the possibility of NOT selecting an option and completing the program with technical electives chosen from all options for a more diversified experience.

Student who will graduate by:

- June 2011 must follow the old options
- Nov. 2011 may follow either old or new options
- June 2012 may follow either old or new options
- Nov 2012 or thereafter must follow new options

I. Electronics/Systems Option has been ***renamed Electronics/VLSI Option*** consisting of the following:

COEN 315 Digital Electronics
COEN 451 VLSI Design I
ELEC 312 Electronics II
Minimum of 18.50 credits must be taken be chosen from the Electrical Engineering Electives list with a minimum of 3.50 credits chosen from the Electronics/VLSI Option Electives list.

Electronics/VLSI Option Electives:

COEN 313 Digital Systems Design II
ELEC 421 Solid State Devices
ELEC 422 Designs of Integrated Circuit Components
ELEC 423 Introduction to Analog VLSI
ELEC 424 VLSI Process Technology
ELEC 425 Optical Devices for High-Speed Communications
ELEC 433 Power Electronics
ELEC 441 Modern Analog Filter Design
ELEC 442 Digital Signal Processing

II. ***Telecommunications Option:***

ELEC 442 Digital Signal Processing
ELEC 462 Digital Communications
ELEC 463 Telecommunication Networks
Minimum of 20.00 credits must be taken be chosen from the Electrical Engineering Electives list with a minimum of 6.00 credits chosen from the Telecommunications Option Electives list.

Telecommunications Option Electives:

ELEC 425 Optical Devices for High-Speed Communications
ELEC 453 Microwave Engineering
ELEC 456 Antennas
ELEC 457 Design of Wireless RF Systems
ELEC 464 Wireless Communications
ELEC 465 Networks Security and Management
ELEC 466 Introduction to Optical Communication Systems

ELEC 472 Advanced Telecommunication Networks

III. ***Power and Renewable Energy Option*** has been added to the Electrical Engineering program. The Power and Renewable Energy option consist of the following:

ELEC 433 Power Electronics
ELEC 437 Renewable Energy Systems
ELEC 440 Controlled Electric Drives
ELEC 481 Linear Systems
Minimum of 16.50 credits must be taken be chosen from the Electrical Engineering Electives list with a minimum of 3.00 credits chosen from the Power and Renewable Energy Option Electives list.

Power and Renewable Energy Option Electives:

ELEC 430 Electrical Power Equipment
ELEC 431 Electrical Power Systems
ELEC 432 Control of Electrical Power Conversion Systems
ELEC 434 Behaviour of Power Systems
ELEC 435 Electromechanical Energy Conversion Systems
ELEC 436 Protection of Power Systems
ELEC 438 Industrial Electrical Systems
ELEC 439 Electric and Hybrid Vehicles
ELEC 442 Digital Signal Processing
ELEC 482 System Optimization
ELEC 483 Real-time Computer Control Systems

Note: ELEC 430, 432, 434, 436 and 438 are usually offered in the French Language.

IV. ***Avionics and Control Option*** has been added to the Electrical Engineering program. The Avionics and Control option consist of the following:

ELEC 415 Flight Control Systems
ELEC 416 Avionic Navigation Systems
ELEC 483 Real-time Computer Control Systems
ENGR 417 Standards, Regulations and Certification
ENGR 418 Integration of Avionics Systems
Minimum of 14.00 credits must be taken be chosen from the Electrical Engineering Electives list

V. ***For students NOT selecting an Option***
A minimum of 30 credits must be chosen from the Electrical Engineering Elective list. As a transitional measure students graduating by June 2012 can choose to graduate under the old options or switch to the new option.

4. Electrical Engineering Technical Electives:

Courses are listed in to facilitate course selection:

A. Communications and Signal Processing Credits

ELEC 441 Modern Analog Filter Design
ELEC 442 Digital Signal Processing
ELEC 462 Digital Communications
ELEC 463 Telecommunication Networks
ELEC 464 Wireless Communications
ELEC 465 Networks Security and Management
ELEC 466 Introduction to Optical Communication Systems
ELEC 472 Advanced Telecommunication Networks

B. Computer Systems

COEN 313 Digital Systems Design II
COEN 316 Computer Architecture and Design
COEN 317 Microprocessor Systems
COEN 320 Introduction to Real-Time Systems
COEN 345 Software Testing and Validation
COEN 346 Operating Systems
COEN 352 Data Structures and Algorithms
COEN 421 Embedded Systems and Software Design
COEN 432 Applied Genetic and Evolutionary Systems
SOEN 341 Software Process
SOEN 342 Software Requirements and Specifications
SOEN 343 Software Architecture and Design I

C. Electronics/VLSI

COEN 315 Digital Electronics
COEN 451 VLSI Circuit Design
ELEC 312 Electronics II
ELEC 421 Solid State Devices
ELEC 422 Design of Integrated Circuit Components
ELEC 423 Introduction to Analog VLSI
ELEC 424 VLSI Process Technology
ELEC 425 Optical Devices for High-Speed Communications

D. Power

ELEC 430 Electrical Power Equipment
ELEC 431 Electrical Power Systems
ELEC 432 Control of Electrical Power Conversion Systems
ELEC 433 Power Electronics
ELEC 434 Behaviour of Power Systems
ELEC 435 Electromechanical Energy Conversion Systems
ELEC 436 Protection of Power Systems
ELEC 437 Renewable Energy Systems

ELEC 438 Industrial Electrical Systems
ELEC 439 Hybrid Electric Vehicle Power System Design and Control
ELEC 440 Controlled Electric Drives

Note: ELEC 430, 432, 434, 436 and 438 are usually offered in the French Language.

E. Control Systems and Avionics

ELEC 415 Flight Control Systems
ELEC 416 Avionic Navigation Systems
ELEC 481 Linear Systems
ELEC 482 System Optimization
ELEC 483 Real-Time Computer Control Systems
ENGR 245 Mechanical Analysis
ENGR 417 Standards, Regulations, and Certification
ENGR 418 Integration of Avionics Systems
ENGR 472 Robot Manipulators

F. Waves and Electromagnetics

ELEC 451 Computer-Aided Modelling and Design of Circuits
ELEC 453 Microwave Engineering
ELEC 455 Acoustics
ELEC 456 Antennas
ELEC 457 Design of Wireless RF Systems
ELEC 458 Techniques in Electromagnetic Compatibility

G. Other

ELEC 498 Topics in Electrical Engineering
ENGR 411 Special Technical Report

5. Power Institute

Students accepted by the Institute for Electrical Power Engineering are expected to complete five courses as required by the Institute, and offered by participating universities, from among: ELEC 430, 431, 432, 433, 434, 435, 436, and 438. Some of these courses are offered in French. Students register for courses at their home universities. Students accepted by the Institute must complete a minimum of 120 credits in total.