CHANGES TO THE ELECTRICAL ENG. PROGRAM

The Electrical Engineering program has been revised in large part to ensure that it is at the recommended accreditation levels and to strengthen students' knowledge in core areas. Although these changes are targeted for the new students commencing September 2006, there are a few revised courses that will be implemented for students continuing in the program. Major changes are listed below.

- Total number of credits changes from 108-111 to 109-110. Students currently in the program will not be affected by this change.

- Two new courses at the 200 level have been introduced to the new curriculum:
  - ECSE 211, Design Methodology and Principles (3 credits)
  - ECSE 212, Properties of Materials in Elect. Eng. (3 credits)

  Students currently in the program will not be affected by this change.

- The existing 5 credit course Introduction to Microelectronics, ECSE 334 has now been split into two courses:
  - ECSE 334, Introduction to Microelectronics (3 credits)
  - ECSE 434, Microelectronics Laboratory (2 credits)

  For the Fall 2006 and Winter 2007 terms, students can choose to take the 434 lab together with the 334 theory or after taking the 334 theory. Those who are currently registered for ECSE 334 will be removed from the lab component section. They must register for ECSE 434 in addition to ECSE 334. Effective Fall 2007, students will only be able to the 434 lab after taking the 334 theory.

- Another new course at the 400 level has been added to the list of Departmental required core courses. This is a course in Numerical Methods in Electrical Engineering (ECSE 443). Students currently in the program will not be affected by this change.

- Two new design courses have been introduced. These two new courses will replace ECSE 494, Design Project Lab.
  - ECSE 474, Design Project 1 (1 credit)
  - ECSE 475, Design Project 2 (2 credits)

  The course ECSE 494 in its present form will be taught for the last time in Fall 2007. After that, the two new courses will be in effect. Since ECSE 474 is a prerequisite to ECSE 475, students graduating in Winter 2008 must plan to register for the first course, ECSE 474, in Fall 2007.

<u>Changes to Technical and Laboratory Complementaries</u>

The major change in this area is the removal of the specialization blocks. This change will only be applicable to new students. Continuing students must complete 18 credits of technical complementaries, of which 3 courses must be from one block of specialization and 2 laboratory complementary courses. New Students are now required to take 12 credits (4 courses) of technical complementaries and 2 or 3 credits of labs. The details are listed below.

TECHNICAL COMPLEMENTARIES **12 credits**

Four courses must be chosen from the following list.

ECSE 404 Control Systems	(3 cr, C - ECSE 304 or ECSE 306)
ECSE 405 Antennas	(3 cr, P - ECSE 303 & ECSE 352)
ECSE 411 Communication Systems 1	(3 cr, P - ECSE 305 & ECSE 304 or ECSE 306)
ECSE 412 Discrete-Time Signal Processing	(3 cr, P - ECSE 304 or ECSE 306)
ECSE 413 Communication Systems 2	(3 cr, P - ECSE 411)
ECSE 414 Introduction to Telecom Networks	(3 cr, P - ECSE 304 or ECSE 306, ECSE 322)
ECSE 421 Embedded Systems	(3 cr, P - ECSE 322, ECSE 323)
ECSE 422 Fault Tolerant Computing	(3 cr, P - ECSE 322)
ECSE 423 Fundamentals of Photonics	(3 cr, P - ECSE 352 & PHYS 271)
ECSE 424 Human-Computer Interaction	(3 cr, P - ECSE 322)
ECSE 425 Computer Organization and Architecture	(3 cr, P - ECSE 322 & ECSE 323)
ECSE 426 Microprocessor Systems	(3 cr, P - ECSE 323 & EDEC 206)
ECSE 427 Operating Systems	(3 cr, P - ECSE 322 or COMP 273)
ECSE 430 Photonic Devices and Systems	(3 cr, P - ECSE 352 and PHYS 271)
ECSE 431 Introduction to VLSI CAD	(3 cr, P - ECSE 323 & ECSE 330)
ECSE 432 Physical Basis: Transistor Devices	(3 cr, P - ECSE 212, ECSE 330, ECSE 351 & PHYS 271)
ECSE 435 Mixed-Signal Test Techniques	(3 cr, P - ECSE 304 & ECSE 334)
ECSE 436 Signal Processing Hardware	(3 cr, P - ECSE 322, ECSE 323, ECSE 304 or ECSE 306)
ECSE 450 Electromagnetic Compatibility	(3 cr, P - ECSE 221, ECSE 334, ECSE 352 or ECSE 353)
ECSE 451 EM Transmission and Radiation	(3 cr, P - ECSE 352)
ECSE 460 Appareillage Electrique	(3 cr, P - ECSE 361)
ECSE 462 Electromech Energy Conversion	(3 cr, P - ECSE 361)
ECSE 463 Materiaux de l'Electrotechnique	(3 cr, P - ECSE 361)
ECSE 464 Power Systems Analysis	(3 cr, P - ECSE 361)
ECSE 465 Power Electronic Systems	(3 cr, P - ECSE 334 & ECSE 361)
ECSE 467 Comportement des Reseaux électriques	(3 cr, P - ECSE 361)
ECSE 468 Electricite Industrielle	(3 cr, P - ECSE 361)
ECSE 469 Protection des Reseaux Electriques	(3 cr, P - ECSE 361)

LABORATORY COMPLEMENTARY COURSES **2-3 credits**

One course must be chosen from the following list.

ECSE 426 Microprocessor Systems	(3 cr, P - ECSE 323 & EDEC 206)
ECSE 431 Introduction to VLSI CAD	(3 cr, P - ECSE 323 & ECSE 330)
ECSE 435 Mixed-Signal Test Techniques	(3 cr, P - ECSE 304 & ECSE 334)
ECSE 436 Signal Processing Hardware	(3 cr, P - ECSE 322, ECSE 323, ECSE 304 or ECSE 306)
ECSE 450 Electromagnetic Compatibility	(3 cr, P- ECSE 221, ECSE 334, ECSE 352 or ECSE 353)
ECSE 485 IC Fabrication Laboratory	(2 cr, P - ECSE 334, EDEC 206; C- ECSE 432 or ECSE 533)
ECSE 486 Power Laboratory	(2 cr, P - ECSE 334, ECSE 361& EDEC 206)
ECSE 487 Computer Architecture Laboratory	(2 cr, P - EDEC 206; C- ECSE 425 or ECSE 525)
ECSE 488 High-Frequency Laboratory	(2 cr, P - EDEC 206 & ECSE 291; C- ECSE 451)
ECSE 489 Telecommunication Network Laboratory	(2 cr, P - EDEC 206; C - ECSE 414)
ECSE 490 Digital Signal Processing Laboratory	(2 cr, P - ECSE 291 & EDEC 206; C - ECSE 412 or ECSE 512)
ECSE 491 Communication Systems Laboratory	(2 cr, P - EDEC 206, ECSE 291; C - ECSE 411 or ECSE 511)
ECSE 493 Robotics and Control Laboratory	(2 cr, P - EDEC 206 & ECSE 291; C - ECSE 404 or ECSE 501)