Proposed CompE Technical Elective Requirements

Technical program breadth and depth requirements (CompE):

1) At least 28 technical elective credits are required.
2) At least 22 credits must be taken from CSci or EE 4XXX or 5XXX* courses; the remaining 6 credits may be taken from CSci or EE 4XXX or 5XXX* courses or from an approved list of technical electives from other departments.
3) Either Senior Design 4951W (counts as one lab course) or Senior Honors EE 4981H & EE 4982V (count as two lab courses) is required.
4) A total of 3 courses having a lab component are required.
5) Must take a minimum of 1 course from 4 different core areas (12-16 credits).
6) Must take a minimum of 2 courses from one area (6-8 credits).

Core areas:

Computer Architecture
- EE 4389 (3 cr) Empirical Inference and Soft Computing
- CSci 5204 (3 cr) Advanced Computer Architecture
  - Same as EE 5364 (3 cr) Advanced Computer Architecture*
- EE 5371 (3 cr) Computer Systems Performance Measurement and Evaluation*
- EE 5393 (3 cr) Circuits, Computation & Biology
- CSci 5104 (3 cr) System Modeling and Performance Evaluation

Robotics and Embedded System Design
- EE 4233/7 (3-4 cr) State Space Control System Design
- EE 4231/5 (3-4 cr) Linear Control Systems: Designed by Input/Output Methods
- EE 4341 (4 cr) Microprocessor and Microcontroller System Design
- CSci 5143 (3 cr) Real-Time and Embedded Systems
- CSci 5551 (3 cr) Introduction to Intelligent Robotic Systems
- CSci 5552 (3 cr) Sensing and Estimation in Robotics

VLSI and CAD
- EE 4301 (4 cr) Digital Design with Programmable Logic
- CSci 5283 (3 cr) Computer-Aided Design I
- EE 5301 (3 cr) VLSI Design Automation I
- EE 5302 (3 cr) VLSI Design Automation II
- EE 5323 (3 cr) VLSI Design I
- EE 5324 (3 cr) VLSI Design II
- EE 5329 (3 cr) VLSI Digital Signal Processing Systems
- EE 5333 (3 cr) Analog Integrated Circuit Design
Networks and Communication
CSci 4131 (3 cr) Internet Programming
CSci 4211 (3 cr) Intro to Computer Networks
CSci 5131 (3 cr) Advanced Internet Programming
CSci 5211 (3 cr) Data Communication and Computer Networks
CSci 5221 (3 cr) Foundations of Advanced Networking
EE 5381 (3 cr) Telecommunication Networks
EE 5583 (3 cr) Error Control Coding

Systems and Software Design
Csci 4707 (3 cr) Practice of Database Systems
Csci 5103 (3 cr) Operating Systems
CSci 5105 (3 cr) Foundations of Modern Operating Systems
CSci 5106 (3 cr) Programming Languages
CSci 5115 (3 cr) User Interface Design, Implementation and Evaluation
CSci 5161 (3 cr) Intro to Compilers
CSci 5451 (3 cr) Intro to Parallel Computing
CSci 5708 (3 cr) Architecture and Implementation of Database Management Systems
CSci 5801 (3 cr) Software Engineering I
CSci 5802 (3 cr) Software Engineering II

*EE 5XXX level courses are graduate level courses; they can be taken by an undergraduate student if the student has a gpa of at least 3.2 or if the student obtains the permission of the course instructor and the ECE Scholastic Standards Committee.
Current CompE Technical Elective Requirements

8.6. CompE Technical Program (28 cr required) (26 for students entering prior to Fall 2006)

8.6.1 CompE Senior Technical Electives (22 cr minimum required) (20 for students entering prior to Fall 2006)

1) One of the following projects courses:
   EE 4951W (4 cr)  Senior Design Project (1 Lab) OR
   EE 4981H-4982V (4 cr)  Senior Honors Project (2 Labs)

2) At least one of the following design courses:
   EE 4301 (4 cr)  Digital Design w/Programmable Logic (1 Lab)
   EE 4341 (4 cr)  Microprocessor & Microcontroller Sys. Design (1 Lab)

3) 4xxx or 5xxx EE or CSci Courses that, in combination with above, total at least 22 semester credits (20 for students entering prior to Fall 2006), and obtain three 4xxx or 5xxx level courses which contain a laboratory component.

8.6.2. Additional Electives (0-6 credits):

If needed, select from the approved list of courses below so that, in combination with 8.6.1 above, the total number of credits is obtained. When courses are listed in pairs, both must be taken to receive credit as technical electives. Availability of courses may depend upon prerequisites; some that require prerequisites are marked below.