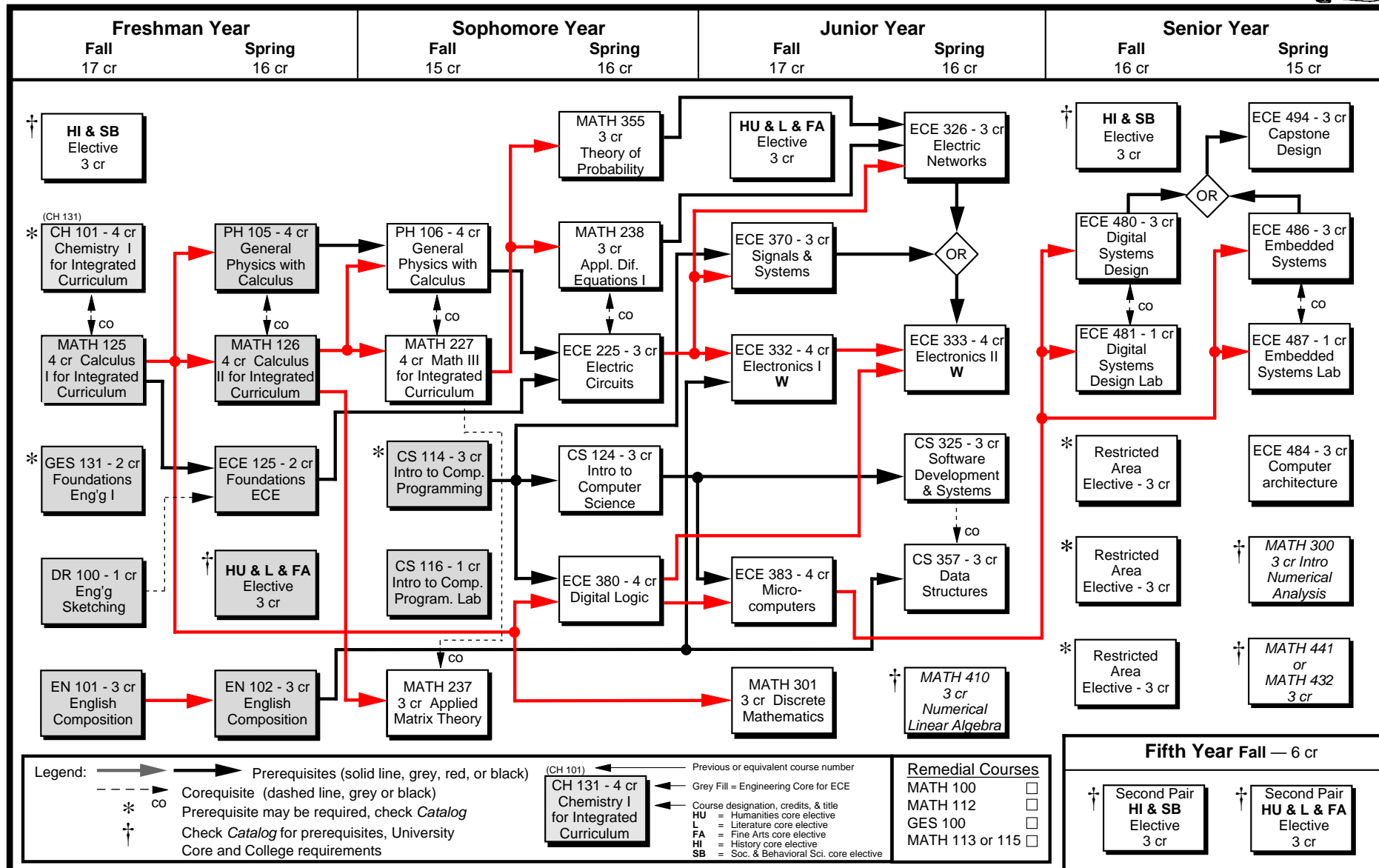


Department of Electrical and Computer Engineering — Department of Mathematics  
**Computer Engineering Option and Mathematics Double Major —**  
 for students starting their college careers Fall 2004 or later



135 credits total

This is an unofficial flow chart for the computer-engineering option and has been prepared to assist students in planning their schedules. The official curriculum and courses are listed in the current version of *The University of Alabama Undergraduate Catalog*. The Department of Electrical and Computer Engineering may change course prerequisites or corequisites, as the contents of courses evolve to keep pace with changing technology. Students must consult with their advisors prior to registration to ensure correct course sequencing.

## Department of Electrical and Computer Engineering Computer Engineering Option

Name: \_\_\_\_\_ Student No.: \_\_\_\_\_ Semester: \_\_\_\_\_

### COURSES REQUESTED

Dept.	Course No.	Course Title	Credit Hrs.

### Prerequisite-Corequisite Verification

I have obtained, or expect to obtain prior to taking the courses, a grade of at least a "C" for prerequisites for courses listed in the schedule above which are the same as those listed on the Telephone Registration Worksheet. I understand that if I remain enrolled in a course without meeting the prerequisite or corequisite requirements, I will be administratively withdrawn from the course.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Advisor: \_\_\_\_\_ Date: \_\_\_\_\_

### APPROVED RESTRICTED AREA ELECTIVES

The following is a list of approved restricted electives. The electives are grouped by suggested areas of study within computer engineering. However, the student is free to choose any combination of electives listed.

#### Area 1: Software Engineering

<b>CS 403</b> Programming Languages. <b>CS 407</b> Software Interface Design. <b>CS 415</b> Software Design & Development. <b>CS 426</b> Introduction to Operating Systems. <b>CS 434</b> Compiler Construction.	<b>CS 438</b> Comp. Communications & Networks. <b>CS 465</b> Artificial Intelligence. <b>CS 470</b> Introduction to Computer Algorithms. <b>CS 480</b> Computer Simulations.
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#### Area 2: Microprocessor-Based System Design

<b>ECE 479</b> Digital Control Systems. <b>ECE 482</b> Comp. Vision & Digital Image Proc. <b>ECE 483</b> Computer Graphics Design.	<b>ECE 488</b> Microcontrollers. <b>ECE 489</b> Microcontrollers Laboratory.
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#### Area 3: Computer Architecture and VLSI Design

<b>ECE 430</b> Digital Integrated Circuit Design. <b>ECE 431</b> Digital Integrated Circuit Design Lab. <b>ECE 432</b> Analog Integrated Circuit Design. <b>ECE 433</b> Analog Integrated Circuit Design Lab.	<b>ECE 434</b> High Frequency Electronics. <b>ECE 435</b> High Frequency Electronics Lab. <b>ECE 438</b> Integrated Circuit Fab. Principles. <b>ECE 484</b> Computer Architecture.
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### ECE SENIOR COURSES

- 406. Computer Communications and Networks** (also CS 438). (3-0) Three hours. Prereq. CS 325, CS 357, and CS 426.
- 407. Communications I.** (3-0) Three hours. Prereq: ECE 370. Coreq: MATH 355.
- 408. Communications II.** (3-0) Three hours. Prereq: ECE 370, MATH 355, and ECE 407.
- 409. Communications Systems Laboratory.** (0-3) One hour. Coreq: ECE 407.
- 430. Digital Integrated Circuit Design.** (3-0) Three hours. Prereq: ECE 333 and ECE 383. Coreq: ECE 431, and MA 237 or GES 451.
- 431. Digital Integrated Circuit Design Laboratory.** (0-3) One hour. Prereq: ECE 333 and ECE 383. Coreq: ECE 430, and MATH 237 or GES 451.
- 432. Analog Integrated Circuit Design.** (3-0) Three hours. Prereq: ECE 333. Coreq: ECE 433.
- 433. Analog Integrated Circuit Design Laboratory.** (0-3) One hour. Prereq: ECE 333. Coreq: ECE 332
- 434. High Frequency Electronics.** (3-0) Three hours. Prereq: ECE 333. Coreq: ECE 435.
- 435. High Frequency Electronics Laboratory.** (0-3) One hour. Prereq: ECE 333. Coreq: ECE 434.
- 438. Integrated Circuit Fabrication Principles.** (3-0) Three hours. Prereq: ECE 333 or MTE 271 or permission of the instructor.
- 445. Antennas.** (3-0) Three hours. Prereq: ECE 340.
- 446. Microwave Engineering.** (3-0) Three hours. Prereq: ECE 340.
- 447. Electromagnetics Laboratory.** (0-3) One hour. Prereq: ECE 340.
- 448. Radar Systems.** (3-0) Three hours. Prereq: ECE 340.
- 453. Electric Machines and Drives.** (3-0) Three hours. Prereq: ECE 326 and ECE 350.
- 455. Power/Machines Laboratory.** (0-3) One hour. Prereq: ECE 350.
- 456. Power Systems I.** (3-0) Three hours. Prereq: ECE 350. Coreq: MATH 237 or GES 451.
- 457. Power Systems II.** (3-0) Three hours. Prereq: ECE 456.
- 467. Engineering Optics.** (3-0) Three hours. Prereq: ECE 340, and either GES 451 or MATH 237. Coreq: ECE 370.
- 475. Control Systems Analysis.** (3-0) Three hours. Prereq: ECE 326.
- 476. Control Systems Laboratory.** (0-3) One hour. Coreq: ECE 475.
- 479. Digital Control Systems.** (3-0) Three hours. Prereq: ECE 370, ECE 475, and either GES 451 or MATH 255.
- 480. Digital Systems Design.** (3-0) Three hours. Prereq: ECE 383. Coreq: ECE 481.
- 481. Digital Systems Design Lab.** (0-3) One hour. Prereq: ECE 383 and EH 102. Coreq: ECE 480.
- 482. Computer Vision and Digital Image Processing.** (3-0) Three hours. Prereq: MATH 355, ECE 285, CS 124, or permission of the instructor.
- 483. Computer Graphics Design** (also CS 435). (3-0) Three hours. Prereq: ECE 383.
- 484. Computer Architecture.** (3-0) Three hours. Prereq: ECE 480.
- 487. Embedded Systems** (3-0) Three hours. Prereq: ECE 383. Coreq: ECE 487.
- 486. Embedded Systems Lab** (0-3) One hour. Prereq: ECE 383. Coreq: ECE 486.
- 488. Microcontrollers.** (3-0) Three hours. Prereq: ECE 383. Coreq: ECE 489.
- 489. Microcontrollers Laboratory.** (0-3) One hour. Prereq: ECE 383. Coreq: ECE 488.
- 491. Special Problems** (Area). Credit based on individual problem assignment. Investigations usually involving research with a staff member.
- 493. Selected Topics** (Area). Credit based on course requirements. Special course offerings in all areas of electrical engineering, given as the need arises.
- 498. Honors Problem I.** One-three hours. Prereq: Senior honor student with 3.3 or higher GPA.
- 499. Honors Problem II.** One-three hours. Prereq: Senior honor student with 3.3 or higher GPA.

*March 2004*