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U N I V E R S I T Y o f H O U S T O N

Cullen College of Engineering
Department of Electrical and Computer Engineering

Houston, TX 77204-4005



APPROVED NOV 17 2010

INTEROFFICE MEMORANDUM

RECEIVED OCT 14 2010

To: Undergraduate Council

Subject: Proposed Revisions in BSEE & BSCpE Degree Plans

Date: October 5, 2010

The following changes in the EE and CPE degree plans are being recommended (effective fall 2011) by the departmental undergraduate curriculum committee and have been approved by the department at our faculty meeting in May.

(1) split electronics (3455) into separate lecture (3355) and lab (3155) which are to be corequisites of each other. All courses that currently have 3455 as a prereq will be changed to have both 3355 and 3155 as prereq.

(2) 3337 will become a prereq (rather than a cfori) for 3355 as well as for 3364 (circuits&systems, also known as networks 2)

(3) 2331 (numerical methods) will be eliminated

(4) 2300 (circuits 1) will move to the first semester of the sophomore year, as will math 3321 (engineering math). Physics 2 (phys 1322) and cal 3 (math 2433) will become cfori rather than prereq, and the cfori of ece 2331 will be removed,

(5) to make room in the first semester of the sophomore year, humanities core will move to the first semester of the jr year

(6) 3337 (analysis—removing the 1 since we have eliminated the long dead 3338) and 3331 (appl programming) will move to the second semester of the sophomore year. For 3337 the prereq of ECE 2331 will be removed & 2317 will become a cfori; for 3331 the prereq of 2331 will be replaced by prereq of engineering math (Math 3321) and ECE 1331. We will remove the statement in the catalog that requires all 2000 level ece courses to be completed before 3000 level are attempted

(7) In the EE-option, move 3441 (digital logic) to the first semester of the junior year & 4436 (microP) to the second semester of the jr year

(8) In the fall semester of the senior yr add a prequel semester of "senior" design, ECE 4335, that will have 3355/3155, 3441, inde 2333 (prob&stat) & engi 2304 (tech comm.) as prereq; 4436 (microP), and econ 2304 as cfori. It will become a prereq for ECE 4336 (now called Design 2)

The proposed revised degree plans are attached.

Bachelor of Science in Electrical Engineering

Electrical Engineering students may choose from two degree plan options, both leading to the BSEE degree: the Electrical Engineering Option and the Computer Engineering Option. The first and second years are the same for both options:

First Year

Fall Semester	Hours
CHEM 1117. Chemistry for Engineers Laboratory	1
CHEM 1372. Chemistry for Engineers	3
ECE 1100. Introduction to Electrical and Computer Engr.	1
ENGL 1303. Freshman Composition I	3
HIST 1377. The United States to 1877 ¹	3
MATH 1431. Calculus I ²	4
POLS 1336. U.S. and Texas Constitutions and Politics ¹	3
Total	18

Spring Semester

ECE 1331. Computers & Problem Solving	3
ENGL 1304. Freshman Composition II	3
HIST 1378. The United States since 1877 ¹	3
MATH 1432. Calculus II	4
PHYS 1321. University Physics I	3
Total	16

Second Year

Fall Semester	Hours
ECE 2100. Circuits Lab	1
ECE 2300. Circuit Analysis	3
MATH 2433. Calculus III	4
MATH 3321. Engineering Mathematics	3
PHYS 1322. University Physics II	3
POLS 1337. U. S. Government: Congress, President and Court ¹	3
Total	17

Spring Semester

ECE 2317. Applied Electricity & Magnetism	3
ECE 3331. Programming Applications in Electrical and Computer Engineering	3
ECE 3337. Electrical Engineering Analysis	3
ENGI 2304: Technical Communications	3
Visual & Performing Arts Core Course	3
Total	15

Third and Fourth Year, EE Option

Students choosing the EE option must select their ECE electives as follows: At least 21 hours consisting of at least six ECE electives (3- or 4-hour ECE courses with associated labs) satisfying:

- Breadth Requirement: At least one course must be taken in each of two of the following ECE concentration areas: (1)Electromagnetics and Solid State Devices, (2)Power & Controls, (3)Signals & Communications, (4)Electronics. Courses available in each area are posted in the department.

- Depth Requirement: At least two additional courses must be taken at the 5000 level.

Two remaining courses may be any ECE elective at the 3000 level or above except ECE 3336.

Third Year-EE Option

Fall Semester	Hours
ECE 3155. Electronics Lab	1
ECE 3317. Applied EM Waves	3
ECE 3355. Electronics	3
ECE 3364. Circuits & Systems	3
ECE 3441. Digital Logic Design	4
Humanities Core Course	3
Total	17

Spring Semester

ECE 4119. Solid State Devices Laboratory	1
ECE 4339. Physical Principles of Solid State Devices	3
ECE 4436. Microprocessor Systems	4
ECE Elective	3
ENGI 2334. Introduction to Thermodynamics	3
INDE 2333.Engineering Statistics I	3
Total	17

Fourth Year - EE Option

Fall Semester	Hour
ECE 4335. Electrical & Computer Engineering Systems Design I	3
ECE Elective	3
ECE Elective/lab	4
ECON 2304. Microeconomic Principles	3
MECE 3400. Introduction to Mechanics	4
Total	17

Spring Semester

ECE 4336. Electrical & Computer Engineering Systems Design II	3
ECE Elective/lab	4
ECE Elective/lab	4
ECE Elective	3
Total	14

Degree Total 131

Third and Fourth Year, Computer Option

Students choosing the computer option must select their ECE electives as follows: At least 7 hours consisting of at least two ECE electives. The electives may consist of any non-required 3 hour lecture or 4 hour lecture/lab ECE courses at the 3000 level or higher except ECE 3336.

Third Year - Computer Option

Fall Semester	Hours
COSC 1320. Introduction to Computer Science II	3
ECE 3155. Electronics Lab	1
ECE 3317. Applied EM Waves	3
ECE 3355. Electronics	3
ECE 3441. Digital Logic Design	4
Humanities Core Course	<u>3</u>
Total	17

Spring Semester	Hours
COSC 2320. Data Structures	3
ECE 4119. Solid State Devices Laboratory	1
ECE 4339. Physical Principles of Solid State Devices	3
ECE 4436. Microprocessor Systems	4
ECON 2304. Microeconomic Principles	3
INDE 2333. Engineering Statistics I	<u>3</u>
Total	17

Fourth Year - Computer Option

Fall Semester	Hour
ECE 3457. Digital Electronics	4
ECE 4335. Electrical & Computer Engineering Systems Design I	3
ECE 5367. Intro. to Comp. Arch. & Design	3
ECE Elective	3
Approved CPE Elective ¹⁴	<u>4</u>
Total	17

Spring Semester	Hour
COSC 4330. Fundamentals of Operating Systems	3
ECE 4336. Electrical & Computer Engineering Systems Design II	3
Approved CPE Elective ¹⁴	4
ECE Elective/lab ¹⁰	<u>4</u>
Total	14

Degree Total **131**

Computer Engineering Program

First Year

Fall Semester	Hours
CHEM 1117. Chemistry for Engineers Laboratory	1
CHEM 1372. Chemistry for Engineers	3
ECE 1100. Introduction to Electrical and Computer Engr.	1
ENGL 1303. Freshman Composition I	3
HIST 1377. The United States to 1877 ¹	3
MATH 1431. Calculus I ²	4
POLS 1336. U.S. and Texas Constitutions and Politics ¹	3
Total	18

Spring Semester

ECE 1331. Computers & Problem Solving	3
ENGL 1304. Freshman Composition II	3
HIST 1378. The United States since 1877 ¹	3
MATH 1432. Calculus II	4
PHYS 1321. University Physics I	3
Total	16

Second Year

Fall Semester	Hours
ECE 2100. Circuits Lab	1
ECE 2300. Circuit Analysis	3
MATH 2433. Calculus III	4
MATH 3321. Engineering Mathematics	3
PHYS 1322. University Physics II	3
POLS 1337. U. S. Government: Congress, President and Court ¹	3
Total	17

Spring Semester

ECE 2317. Applied Electricity & Magnetism	3
ECE 3331. Programming Applications in Electrical and Computer Engineering	3
ECE 3337. Electrical Engineering Analysis	3
ENGI 2304. Technical Communications	3
Humanities Core Course	3
Total	15

Third Year

Fall Semester	Hours
COSC 1320. Introduction to Computer Science II	3
ECE 3155. Electronics Lab	1
ECE 3355. Electronics	3
ECE 3441. Digital Logic Design	4
INDE 2333. Engineering Statistics I	3
Visual & Performing Arts Core Course	3
Total	17

Spring Semester

COSC 2320. Data Structures	3
ECE 4436. Microprocessor Systems	4
Approved ECE or COSC elective ⁹	3
ECON 2304. Microeconomic Principles	3
MATH 3336. Discrete Mathematics	3
Total	16

Fourth Year

Fall Semester	Hour
COSC 4351. Fundamentals of Software Engineering	3
ECE 3457. Digital Electronics	4
ECE 4335. Electrical & Computer Engineering Systems Design I	3
ECE 5367. Intro. to Comp. Arch. & Design	3
Approved CPE Elective ¹¹	4
Total	17

Spring Semester

COSC 4330. Fundamentals of Operating Systems	3
ECE 4336. Electrical & Computer Engineering Systems Design II	3
Approved CPE Elective ¹⁴	4
ECE Elective/lab ¹⁰	4
Total	14

Degree Total

¹Refer to the Academic Regulations and Degree Requirements section for information on equivalents and substitutions and to the Admission, Advising, Orientation, and Registration section for information on advanced placement examinations.

²Students not qualified to enroll in MATH 1431, must complete MATH 1300, 1310, and/or 1330, as indicated by the results of the Mathematics placement examination, prior to enrolling in MATH 1431.

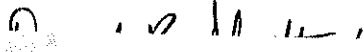
⁹Approved ECE or COSC elective: Any ECE course at the 3000 level or above, except ECE 3336, or choice of COSC 3480, COSC 3340, or any 4000 level COSC course.

¹⁰ECE elective/lab: Any ECE course with associated lab at the 3000 level or above except ECE 3336.

¹⁴Approved CPE elective: The current list of approved CPE electives is available in the department and posted on the web: www.egr.uh.edu/ece/academics/undergrad/

Approved:

Dean's Signature:



Dr. David P. Shattuck

date: 13 Oct 2010