

Student's name _____

**The University of Michigan – Dearborn
College of Engineering and Computer Science**

ID # _____

Computer Engineering and Electrical Engineering Concurrent Degrees Program FALL 2009 catalogs

Undergraduate CECS students majoring in Computer Engineering (CE) may also pursue a concurrent Bachelor of Science in Engineering (B.S.E.) degree in Electrical Engineering (EE).

Similarly, undergraduate CECS students majoring in Electrical Engineering (EE) may also pursue a concurrent Bachelor of Science in Engineering (B.S.E.) degree in Computer Engineering (CE).

The CE and EE Concurrent Degrees Program enables students to earn two degrees at the same time: a B.S.E. degree in Computer Engineering and a B.S.E. degree in Electrical Engineering, or vice versa.

Both degrees must be earned during the same semester, that is, students cannot graduate with one degree then return to graduate with a concurrent degree at a later semester.

The Fall 2009 catalog year requirements for earning two concurrent degrees in EE/CE or in CE/EE are:

- A) A **minimum of 16-17 credits of additional and separate specific courses** beyond the 125 credits required for the first B.S.E. degree alone, for a minimum of 141-142 credits needed to earn both concurrent degrees.
- B) Mandatory selection of appropriate courses as part of the first B.S.E. degree. See specifics below.

In order to earn and graduate with these two degrees, students **must declare and be accepted** into both majors. Fill out a "Request to Change Major within CECS" form in the CECS Advising Office, 2000 HPEC.

I Computer Engineering majors who want a **concurrent degree in EE** need to:

- A) Take these **16** credits:

ECE 3171	<i>Analog and Discrete Signals and Systems</i>	(4)
ECE 385	<i>Electrical Materials and Devices</i>	(3) *
ECE 450	<i>Communications</i>	(4)
ECE 460	<i>Automatic Control Systems</i>	(4)
ECE 480	<i>Introduction to Digital Signal Processing</i>	(4)

* ECE 385 (3) counts as 3 credits towards the Professional Electives category of the CE degree, yielding a net of **16** additional credits beyond the 125 needed of the CE degree. (Above list is subject to change.)

- B) Take one of these three courses: ECE 414 (4), *Electronics II*, **or** ECE 415 (4), *Power Electronics*, **or** ECE 436 (4), *Electric Machines and Hybrid Drives*.
The 4 credits from ECE 414, 415, or 436 count towards the Approved Electives of the CE degree.

II Electrical Engineering majors who want a **concurrent degree in CE** take these **17** credits:

- A) ECE/MATH 276 *Discrete Mathematics for Computer Engineering* (4) *
 - ECE 375 *Computer Architecture* (4)
 - ECE 471 *Computer Networks* (4)
 - ECE 473 *Embedded Systems* (4) *
 - ECE 475 *Computer Hardware* (4)
 - ECE 478 *Operating Systems* (4)

* Since ECE/MATH 276 (4) replaces the third physics course (3) for the EE degree, and ECE 473 (4) replaces the non-ECE course (4) for the EE degree, this represents a net of **17** additional credits beyond the 125 needed for the EE degree. (The above list is subject to change.)

- B) Take **ECE 370** (4). These four credits count towards the Approved Electives of the EE degree.

Notes: 1. These requirements apply only to the Fall 2009 catalog year in Computer Engr. or Electrical Engr.
2. Students may need to take other courses to meet pre-requisite requirements and may thus need more than 16-17 additional credits beyond the first degree to complete the dual degree requirements. 5/11