

Analog Alliance

Custom Digital Circuit Design

Example outcomes gained by taking this track would include joining groups that design microprocessors, high-speed switches, and memories. Local employers would include Cadence, Qimonda, Qualcomm, IBM, Maxim, and Velio. Employers outside of NC that recruit at NCSU include Intel, Cypress, Broadcom and others. Courses central to obtaining this outcome are the following:

- ECE 546 VLSI Design
- ECE 733 Digital Electronics
- ECE 520 Digital ASIC Design

Other relevant courses include ECE 513 DSP, ECE 544 Signal Integrity, and ECE 515 Communications. It is also very useful to get a deeper custom circuit experience by taking other VLSI courses such as ECE 511 Analog Circuits, ECE 712 RF CMOS, and ECE 792D A/D Convertors.

Sample MS Plan of Work

These plans of work are suggestions only. Feel free to seek other advice or to structure your own curricula. Please note that the actual courses taught are constantly changing, and these might be out of date. These are written assuming you are a full time student taking 10 courses over three semesters. You might choose to not overload in Spring, but take one last course in Spring after this.

Full Custom High Speed Design for Microprocessors, Transceivers, and Backplanes					
Fall		Spring		Fall	
ECE 546	DIG	ECE 733	DIG	ECE 792D	A/D
ECE 511	ANA	ECE 520	DIG	ECE 513	DSP
ECE 521	DIG	ECE 557	NEP	ECE 544	A/RF/D
		ECE 515	COM		

Associated Faculty

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