

Analog Alliance

Analog and RF Circuit Design

Example outcomes gained by taking this track would include joining groups that design and maintain the following types of chips, sub-systems and systems: wireless communications and networking, radars, and Electronic Warfare systems. Local employers looking for skills in this area would include Analog Devices, IBM, Rambus, RF M D, Sony-Ericsson, and Harris Corporation. Employers outside of NC that recruit at NCSU include Northrop Grumman, and a number of Government Labs. Courses central to obtaining this outcome are the following:

- ECE 549 RF Design For Wireless
- ECE 514 Random Processes
- ECE 546 VLSI Design
- ECE 511 Analog Electronics
- ECE 719 Microwave Circuit Design
- ECE 712 Integrated Circuit Design for Wireless Communications

Additional courses you should consider include the following:

- ECE 520 Digital ASIC Design (to understand mixed signal design)
- ECE 513 Digital Signal Processing (application area)
- ECE 515 Digital Communications (application area)
- ECE 582 Wireless Communications Systems (application area)
- ECE 540 Electromagnetics (essential background)
- ECE 557 Principles of MOS Transistors (very useful knowledge for circuit designers)
- ECE 733 Digital Electronics (if you are interested in chip interface design)

Sample M S 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 Please note that the actual courses taught are constantly changing, and these might be out of date.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.

Analog and RF Integrated Circuit Design					
Fall		Spring		Fall	
ECE511	A	ECE712	RF/M	ECE514	COM
ECE549	RF/M	ECE520	D	ECE582	COM
ECE546	D	ECE540	EM	ECE513	DSP
		ECE719	RF/M		
		ECE515	COM		

		ECE557	NEP		
D Digital, EM Electromagnetics, RF/M RF/Microwave, A Analog, DSP Digital Signal Processing, COM Communications, NEP Nanoelectronics					

Courses with Dependencies	
Course	Dependency
ECE712	ECE511, ECE549
ECE719	ECE549
ECE515	ECE514

Associated Faculty

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Last edited by M. Steer 8/19/2009