

ECE - Integrated Circuits Track

Revised: 03/10/2009

Non-MECOP Plan This guide is for planning purposes only. Course offerings subject to change.

	Fall	Winter	Spring	Summer
Freshman	MTH 251*	4 MTH 252*	4 MTH 254*	
	ECE 111	3 ECE 112*	3 CS 161	
	CH 201*	3 MTH 231	4 ECE 271	
	WR 121*	3 Perspective	3 ECE 272	
		3 Lifetime Fitness	3 PH 211*	
	13 Total	17 Total	16 Total	0
Sophomore	MTH 256*	4 MTH 306*	4 MTH 255	
	PH 212*	4 PH 213*	4 WR 327	
	ENGR 201*	3 ENGR 202*	3 ENGR 203	
	COMM 111/114*	3 CS 162	4 CS 261	
			<i>Apply to Pro</i>	
	14 Total	15 Total	14 Total	0
Junior	ECE 375	4 ECE 322	4 ECE 323	
	ECE 351	3 ECE 352	4 ECE 353	
	ECE 390	4 ECE 391	4 CS 372	
	Bio+Lab	4 Perspective	3 ENGR 390	
		15 Total	15 Total	14 Total
Senior	ECE 441	2 ECE 442	2 ECE 443	
	ECE 416	3 ECE 423	4 <i>ECE 418/462/474/520</i>	
	ECE 422	4 <i>ECE 461/464/471</i>	4 DPD	
	<i>ECE 473</i>	4 <i>Restricted Electives</i>	3 CS 391	
	Perspective	3 Perspective	3 Contemporary Global Issue	
		16 Total	16 Total	15 Total

Total Credits: 180

MECOP Plan

	Fall	Winter	Spring	Summer
Freshman	MTH 251*	4 MTH 252*	4 MTH 254*	
	ECE 111	3 ECE 112*	3 CS 161	
	CH 201*	3 MTH 231	4 ECE 271	
	WR 121*	3 Perspective	3 ECE 272	
		3 Lifetime Fitness	3 PH 211*	
	13 Total	17 Total	16 Total	0
Sophomore	MTH 256*	4 MTH 306*	4 MTH 255	
	PH 212*	4 PH 213*	4 WR 327	
	ENGR 201*	3 ENGR 202*	3 ENGR 203	
	COMM 111/114*	3 CS 162	4 CS 261	
			<i>Apply to Pro & MECOP</i>	
	14 Total	15 Total	14 Total	0
Junior	<i>ECE 375</i>	4 <i>ECE 322</i>	4	
	<i>ECE 351</i>	3 <i>ECE 352</i>	4	
	ECE 416	3 <i>ECE 353</i>	3 MECOP Internship	MECOP Internship
	<i>ENGR 407</i>	1 <i>ECE 391</i>	4	
	ECE 390	4		
	15 Total	15 Total		
Senior 1	ECE 441	2 ECE 442	2 ECE 443	
	ECE 323	4 ECE 423	4 <i>ECE 418/462/474/520</i>	
	<i>ECE 473</i>	4 <i>ECE 461/464/471</i>	4 ECE/CS 372	
	ECE 422	4 <i>Restricted Electives</i>	3 DPD	
	ENGR 407	1 Perspective	3 Perspective	MECOP Internship
		15 Total	16 Total	16 Total
Senior 2		ENGR 390	3	
		Bi+Lab	4	
		Perspective	3	
		CS 391	3	
		Contemporary Global Issue	3	
	16 Total			

Total Credits: 182

Track Description

Integrated circuits (ICs or chips) are miniaturized electronic components manufactured on a single semiconductor (silicon) substrate. Consumer, biomedical, aerospace, and military electronics rely on the performance and miniaturization benefits obtained with ICs. A study of ICs involves applications of basic semiconductor devices (diodes, bipolar junction transistors (BJTs), and metal oxide field effect transistors (MOSFETs)) in useful circuit functions. The focus is on principles, analysis, and design of a wide variety of circuits.

Employment

Employment opportunities include engineering jobs in circuits and architectures for next generation computing and multimedia platforms, including consumer electronics (cell phones, gaming consoles, MP3 players) and desktop/laptop computers (microprocessors). Also, biomedical electronics (pacemakers, hearing aids) and military electronics companies offer job opportunities for students with this background.

Track Specific Courses

(#) = number of credits

Required (15)

ECE 390 F
ECE 317/416 F
ECE 422 F
ECE 423 W

Restricted Electives (15); Select at least three

courses from:

ECE 418 Sp
ECE 461 W
ECE 462 Sp
ECE 464 W
ECE 471 W
ECE 473 F
ECE 474 Sp
ECE 520 Sp

Bolded courses in Freshman and Sophomore years should be completed prior to beginning the professional program

Bolded and Italized courses should be completed prior to first MECOP internship