

ECE - Materials & Devices 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*	4
	ECE 111	3 ECE 112*	3 CS 161	4
	CH 201*	3 MTH 231	4 ECE 271	3
	WR 121*	3 Perspective	3 ECE 272	1
		3 Lifetime Fitness	3 PH 211*	4
	Total 13	Total 17	Total 16	Total 0
Sophomore	MTH 256*	4 MTH 306*	4 MTH 255	4
	PH 212*	4 PH 213*	4 WR 327	3
	ENGR 201*	3 ENGR 202*	3 ENGR 203	3
	COMM 111/114*	3 CS 162	4 CS 261	4
			<i>Apply to Pro</i>	
	Total 14	Total 15	Total 14	Total 0
Junior	ECE 375	4 ECE 322	4 ECE 323	4
	ECE 351	3 ECE 352	4 ECE 353	3
	ECE 390	4 ECE 391	4 CS 372	4
	Bio+Lab	4 Perspective	3 PH 314	4
	Total 15	Total 15	Total 15	Total 0
Senior	ECE 441	2 ECE 442	2 ECE 443	2
	ECE 416	3 ECE 417	3 ECE 418	3
	<i>ECE 422/482/CH411</i>	4 <i>ECE423/499-M/PH481/CHE444</i>	4 <i>ECE483/499S/499N</i>	4
	ENGR 390	4 Perspective	3 CS 391	3
	Perspective	3 DPD	3 Contemporary Global Issue	3
	Total 16	Total 15	Total 15	Total 0

Total Credits: 180

MECOP Plan

	Fall	Winter	Spring	Summer
Freshman	MTH 251*	4 MTH 252*	4 MTH 254*	4
	ECE 111	3 ECE 112*	3 CS 161	4
	CH 201*	3 MTH 231	4 ECE 271	3
	WR 121*	3 Perspective	3 ECE 272	1
		3 Lifetime Fitness	3 PH 211*	4
	Total 13	Total 17	Total 16	Total 0
Sophomore	MTH 256*	4 MTH 306*	4 MTH 255	4
	PH 212*	4 PH 213*	4 WR 327	3
	ENGR 201*	3 ENGR 202*	3 ENGR 203	3
	COMM 111/114*	3 CS 162	4 CS 261	4
			<i>Apply to Pro & MECOP</i>	
	Total 14	Total 15	Total 14	Total 0
Junior	ECE 375	4 ECE 322	4	
	ECE 351	3 ECE 352	4	
	ECE 416	3 ECE 353	3	MECOP Internship
	ECE 390	4 ECE 391	4	
	ENGR 407	1		MECOP Internship
	Total 15	Total 15		
Senior 1	ECE 441	2 ECE 442	2 ECE 443	2
	ECE 323	4 ECE/CS 372	4 ECE 418	3
	DPD/ PH314	4 ECE 417	4 PH314/DPD	3
	<i>ECE 422/482/CH411</i>	4 <i>ECE423/499-M/PH481/CHE444</i>	4 <i>ECE 483/499S/499N</i>	4
	ENGR 407	1 Perspective	3 Perspective	3
	Total 15	Total 17	Total 15	
Senior 2		ENGR 390	3	
		Bi+Lab	4	
	MECOP Internship	Perspective	3	
		CS 391	3	
		Contemporary Global Issue	3	
	Total 16			

Total Credits: 182

Track Description

Materials and Devices concerns how semiconductor devices, such as transistors, diodes and sensors, work and how they are built. Introductory courses cover the physics and properties of electronic materials: semiconductors, metals and insulators and how these materials are combined to form electronic devices. Higher level courses specialize in particular areas such as optoelectronics, semiconductor processing, magnetics, or sensors. In the undergraduate semiconductor fabrication laboratory, students learn to use semiconductor processing equipment in the "clean room" to fabricate and test their own diodes and transistors.

Employment

Career opportunities abound with the major semiconductor suppliers, as well as with many small companies that are developing their own specialized device technologies.

Track Specific Courses

(#) = number of credits

Required (18)

ECE 390	F
PH 314	F/Sp
ECE 317/416	F
ECE 417	W
ECE 418	Sp

Restricted Electives (12);

Select at least three courses from:

<i>ECE 422</i>	F
<i>ECE 423</i>	W
<i>ECE 499-Sensors</i>	Sp
<i>ECE 499-EngrMagn</i>	W
<i>ECE 482</i>	F
<i>ECE 483</i>	Sp
<i>PH 481</i>	W
<i>CH 411</i>	F/W
<i>CHE 444</i>	W
<i>ECE 499-Nano</i>	Sp

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

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