

# ECE - Optoelectronics 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	<b>MTH 251*</b>	4 <b>MTH 252*</b>	4 <b>MTH 254*</b>	4
	ECE 111	3 <b>ECE 112*</b>	3 CS 161	4
	<b>CH 201*</b>	3 MTH 231	4 ECE 271	3
	<b>WR 121*</b>	3 Perspective	3 ECE 272	1
		3 Lifetime Fitness	3 <b>PH 211*</b>	4
	Total 13	Total 17	Total 16	Total 0
Sophomore	<b>MTH 256*</b>	4 <b>MTH 306*</b>	4 MTH 255	4
	<b>PH 212*</b>	4 <b>PH 213*</b>	4 WR 327	3
	<b>ENGR 201*</b>	3 <b>ENGR 202*</b>	3 ENGR 203	3
	<b>COMM 111/114*</b>	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
	<b>ECE 390</b>	4 ECE 391	4 CS 372	4
	Bio+Lab	4 Perspective	3 <b>PH 314</b>	4
		Total 15	Total 15	Total 15
Senior	ECE 441	2 ECE 442	2 ECE 443	2
	<b>ECE 482</b>	4 <i>***Track Restricted Elective</i>	4 <b>ECE 483</b>	4
	<b>ECE 416</b>	3 DPD/ <i>***Track Restricted Elective</i>	3 DPD/ <i>ECE 418/499-S</i>	3
	<i>ECE 422/CH411</i>	4 ENGR 390	3 CS 391	3
	Perspective	3 Perspective	3 Contemporary Global Issue	3
	Total 16	Total 15	Total 15	Total 0

Total Credits: 180

## MECOP Plan

	Fall	Winter	Spring	Summer
Freshman	<b>MTH 251*</b>	4 <b>MTH 252*</b>	4 <b>MTH 254*</b>	4
	ECE 111	3 <b>ECE 112*</b>	3 CS 161	4
	<b>CH 201*</b>	3 MTH 231	4 ECE 271	3
	<b>WR 121*</b>	3 Perspective	3 ECE 272	1
		3 Lifetime Fitness	3 <b>PH 211*</b>	4
	Total 13	Total 17	Total 16	Total 0
Sophomore	<b>MTH 256*</b>	4 <b>MTH 306*</b>	4 MTH 255	4
	<b>PH 212*</b>	4 <b>PH 213*</b>	4 <b>WR 327</b>	3
	<b>ENGR 201*</b>	3 <b>ENGR 202*</b>	3 ENGR 203	3
	<b>COMM 111/114*</b>	3 CS 162	4 CS 261	4
			<i>Apply to Pro &amp; MECOP</i>	
	Total 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	
	<b>ECE 416</b>	3 <i>ECE 353</i>	3 MECOP Internship	MECOP Internship
	<i>ENGR 407</i>	1 <i>ECE 391</i>	4	
	<b>ECE 390</b>	4		
	Total 15	Total 15		
Senior 1	ECE 441	2 ECE 442	2 ECE 443	2
	ECE 323	4 ECE/CS 372	4 <b>ECE 483</b>	4
	<b>ECE 482</b>	4 <i>***Track Restricted Elective</i>	4 <b>PH 314</b>	4 MECOP Internship
	DPD/ <i>ECE 422/CH411</i>	4 DPD/ <i>***Track Restricted Elective</i>	3 DPD/ <i>ECE 418/499-S</i>	3
	ENGR 407	1 Perspective	3 Perspective	3
	Total 15	Total 16	Total 16	
Senior 2		ENGR 390	3	
		Bi+Lab	4	
		Perspective	3	
		CS 391	3	
		Contemporary Global Issue	3	
	Total 16			

Total Credits: 182

### Track Description

Optoelectronics is the study and design of electronic devices that interact with light. Examples of such devices include the semiconductor lasers used in CD players and fiber optic communications as well as lasers used in medicine and micromachining and the image sensors found in digital cameras. Students in this track will learn the basics of semiconductor electronic devices as well as optics, lasers, guided-wave optics, and circuit design.

### Employment

Career opportunities include large consumer electronics companies (DVD players, digital cameras, digital projects, displays, etc.), telecom fiber companies (fiber to and within the home), and many small companies specializing in optical devices (sensors, sources, modulators) for diverse applications in civilian and military technology.

### Track Specific Courses

(#) = number of credits

Required (19)

<b>ECE 390</b>	F
<b>ECE 317/416</b>	F
<b>PH 314</b>	F/Sp
<b>ECE 482</b>	F
<b>ECE 483</b>	Sp

Restricted Electives (11);

Select at least three courses from:

<i>ECE 422</i>	F
<i>CH 411</i>	F/W
<i>CHE 444</i>	W
<i>PH 481</i>	W
<i>ECE 499-E-Magn</i>	W
<i>ECE 417</i>	W
<i>ECE 423</i>	W
<i>ECE 418</i>	Sp
<i>ECE 499-Sensors</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

*\*\*\*Track Restricted Elective (above): CH411/CHE444/PH481/ECE 499-M/ECE 417/ECE 423*