

# ECE - Energy Systems Track

Non-MECOP Plan

Revised: 04/17/2008

	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	
		Total 14	Total 15	Total 14	Total
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 ENGR 211	3	
		Total 15	Total 15	Total 14	Total
Senior	ECE 441	2 ECE 442	2 ECE 443	2	
	ECE 431	4 ECE 331	4 ECE 433/432/438	4	
	ENGR 212	3 ECE 451/464/ Pers	3 ECE 433/432/438	4	
	ECE 451/473/530/550/ Pers	4 ENGR 390	3 Synthesis	3	
	Perspective	3 DPD	3 Synthesis	3	
		Total 16	Total 15	Total 16	Total

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	
		Total 14	Total 15	Total 14	Total
Junior	ECE 375	4 ECE 322	4		
	ECE 351	3 ECE 352	4		
	ENGR 390	3 ECE 353	3 MECOP Internship		MECOP Internship
	ENGR 407	1 ECE 391	4		
		4			
	Total 15	Total 15			
Senior 1	ECE 441	2 ECE 442	2 ECE 443	2	
	ECE 323	4 ECE 331	4 ECE 433/432/438	4	
	ECE 431	4 ECE/CS 372	4 ECE 433/432/438	4	
	ENGR 211	3 ENGR 212	3 DPD	3	
	ENGR 407	1 Perspective	3 Perspective	3	
		Total 14	Total 16	Total 16	MECOP Internship
Senior 2		ECE 451/464	4		
		Bi+Lab	4		
		Perspective	3		
		Synthesis	3		
		Synthesis	3		
	Total	17			

Total Credits: 182

## Track Description

Energy Systems encompasses the disciplines of power electronics, electric machines and drives, power systems and renewables. These disciplines must work together to generate, deliver, and condition power. Energy Systems covers everything between power generation and the end user, including: power electronic converters (e.g. power supplies); electric motors and generators (e.g. wind, wave, and other renewable energy generators); motor drives (e.g. hybrid and electric vehicles); and transmission systems (e.g. transformers and transmission lines).

## Employment

Employment opportunities include companies with power electronics and power management needs; industrial positions for expertise in machines, drives, controllers and components; and electric utilities nationwide and locally.

## Track Specific Courses

(#) = number of credits

Required (18)

ENGR 211

ENGR 212

ECE 331

ECE 390

ECE 431

Restricted Electives (12);

Select at least three courses from:

ECE 432

ECE 433

ECE 499-HEV

ECE 451/ME 430

ECE 464

ECE 473

ECE 530

ECE 550

ME grad control courses