Energy Co-Major

For more information, contact the Institute for the Environment and Sustainability, 118 Shideler Hall, 513-529-5811.

The Energy Co-major provides students with fundamental principles of energy systems, physical science, and policy to prepare them for advanced study in an energy-related field or for professional careers in industry, consulting, government, or non-profit organizations. The energy co-major is designed to give interdisciplinary breadth to complement disciplinary majors in engineering, natural sciences, architecture, business, and the social sciences. The term "co-major" indicates that students must complete another major at Miami University. The Energy Co-major is open to all majors, but students are recommended to take specific courses to fulfill Miami Plan Foundation requirements in physical science and quantitative reasoning.

Program requirements

(34-44 Semester Hours)

Complete a major in one of the divisions of the university.

Code	Title	Credit Hours
Physical Science		
Select one of the following:		3-10
PHY 121	Energy and Environment	
PHY 161 & PHY 162	Physics for the Life Sciences with Laboratory I and Physics for the Life Sciences with Laboratory II	
PHY 191 & PHY 192	and	
Select one of the following:		4
GLG 121 & GLG 115L	Environmental Geology and Understanding the Earth	
GEO 121	Earth's Physical Environment	
Math, Information Technology, Statistics		
Select one of the following:		3-4
MTH 151	Calculus I	
CSE 243	Problem Analysis Using Computer Tools	
ISA 225	Principles of Business Analytics	
ISA 245	Database Systems and Data Warehousing	
Select one of the following:		3-4
ECE 345	Introduction to Probability, Statistics, and Random Processes	
STA 261	Statistics	
STA 301	Applied Statistics	
STA 363	Introduction to Statistical Modeling	
Political and Social Dimensions of Energy and Resources		
IES 211	Energy and Policy	3
Select two of the following:		6
POL 241	American Political System	
POL 362	Public Management, Leadership, and Administrative Politics	
ECO 406	Environmental Economics	
IES 450	Environmental Law	
Energy and Building Systems		
ECE 291	Energy Systems Engineering	3
Select one of the following:		3-4
ARC 212	Principles of Environmental Systems	
ARC 413	Environmental Systems I	
CPB 204	Mass and Energy Balances I	
CPB 244	Introduction to Environmental Engineering	
CPB/MME 314	Engineering Thermodynamics	
ECE 205	Electric Circuit Analysis I	
ECE 287	Digital Systems Design	
ECE 491	Power Systems Engineering	
MME 451	Sustainability Considerations in Design and Development	
Climate and Air Pollution		
Select one of the following:		3
GLG 335	Ice Age Earth	
GLG 436	Paleoclimatology	
CPB 442	Air Pollution Control	
Practicum and Synthesis		
Speakers from the energy industry, building & transportation, and regulatory agencies:		
Select one of the following:		1
CPB 490	Special Topics in Paper and Chemical Engineering	
IES 440	Contemporary Topics in Environmental Sciences	
Interdisciplinary team projects		
Select one of the following: [1]		2
CPB 471	Engineering Design I	
CSE/ECE/MME 448	Senior Design Project	
Total Credit Hours		**34-44**

[1] We also offer 3-credit, project-based alternatives with no or few prerequisites. Please contact IES for more information.