ENERGY ENGINEERING - MINOR

The energy engineering minor provides energy-minded students with a foundational understanding of energy technologies and the energy industry, including technological, policy and economic considerations related to conventional and renewable energy systems.

Required courses include a fundamentals-based energy course, an energy policy/society focused course and 12 credits of energy-focused technical elective courses. Elective courses, selected from across the CU campus, allow students to specialize according to their specific interest in the energy field.

The energy engineering minor has strong connections with industry through an industry advisory panel and guest speakers.

For more information, visit the college's Energy Engineering Minor (http://www.colorado.edu/engineering/energy-engineering-minor/) webpage.

Requirements

Students must complete 18 credit hours for the minor: one fundamentals-based course, one policy/society course and four electives chosen from a list of approved courses. A cumulative GPA of 2.000 or better is required for courses used to satisfy the requirements of this minor. For an up-to-date listing of elective courses, visit the Energy Engineering Minor Technical Electives (https://www.colorado.edu/engineering/academics/guide-degrees-certificates/minors/energy-engineering-minor/energy-engineering-minor-0/) webpage.

Code	Title	Credit Hours
Required Courses		
Fundamentals Course		
Choose one course (3 credits) from the following:		3
AREN 3010	Energy Efficient Buildings	
CHEN 2120	Chemical Engineering Material and Energy Balances	
ECEN 3170	Electromagnetic Energy Conversion 1	
MCEN 3032	Thermodynamics 2	
Policy Course		
Choose one course (3 credits) from the following:		3
MCEN 4032/5032	Sustainable Energy (or EVEN 3650 Sustainable Energy)	
ENVS 3621	Energy Policy and Society	
ENVS 3070	Energy and the Environment	
Electives		
Choose four courses (12 credits) from the following: [1,2]		12
AREN 3040	Circuits for Architectural Engineers	
AREN 4010	Energy System Modeling and Control	
AREN 4890/5890	Sustainable Building Design	
ASEN 3402	Aerospace Heat Transfer	
ASEN 3503	Aerospace Electronics	
BIEN 4803	Metabolic Engineering	
CHEN 3210	Chemical Engineering Heat and Mass Transfer	
CHEN 3660	Energy Fundamentals	
CHEN 4480/5480	Solar Cells and Optical Devices for Sustainable Buildings	
CHEN 4490/5490	Electrochemical Engineering	
CHEN 4520	Chemical Process Design	
CHEN 5360	Catalysis and Kinetics	
CVEN 3246	Introduction to Construction	
CVEN 3698	Engineering Geology	
ECEN 2250	Introduction to Circuits and Electronics	
ECEN 2410	Renewable Sources and Efficient Electrical Energy Systems	
ECEN 4517	Power Electronics and Photovoltaic Power Systems Laboratory	
ECEN 4555	Principles of Energy Systems and Devices	
ECEN 4797	Introduction to Power Electronics	
ECEN 5407	Renewable Energy and the Future Power Grid	
EMEN 4100	Engineering Economics	
ENEN 4321	Oil and Gas Processing	
ENEN 4600	Interdisciplinary Energy Engineering Projects	
ENEN 4840	Special Topics	
GEEN 3010	Circuits for Engineers	
GEOL 3010	Introduction to Mineralogy	
GEOL 3020	Petrology	
GEOL 3320	Introduction to Geochemistry	
GEOL 3540	Introduction to Petroleum Geology	
MCEN 3017	Circuits and Electronics for Mechanical Engineers	
MCEN 3022	Heat Transfer	
MCEN 4012/5012	Renewable Fuels, Fuel Cells and Internal Combustion Engines	
MCEN 4135/5135	Wind Energy and Wind Turbine Design	
MCEN 4152/5152	Introduction to Combustion	
MCEN 4194/5194	Electrochemical Energy Conversion and Storage	
Total Credit Hours		**18**

1 There may be special topics or other elective courses offered that are suitable for the requirements of this minor. Contact the energy engineering minor faculty director (https://www.colorado.edu/engineering/academics/guide-degrees-certificates/minors/energy-engineering-minor/) for information about whether a specific course can serve as a technical elective for the minor.

2 Courses on the required list may be taken as technical electives.