M.S. in Mechanical Engineering – Energy and Environment Track

Course	Semester	MCEN Credits	Out of Dept Credit	Total
Core Courses (9 hours)				
MCEN 5020 Methods of Eng Anal. (3)				
Choose one of the following:				
MCEN 5021 Introduction to Fluid Dynamics (3)				
MCEN 5041 Advanced Fluid Mechanics I (3)				
Choose one of the following:				
MCEN 5022 Classical Thermodynamics (3)				
MCEN 5042 Heat Transfer (3)				
Two semesters of seminar (2 hours)				
MCEN 5027 Graduate Seminar (1)				P/F
MCEN 5027 Graduate Seminar (1)				P/F
Enrichment Courses (12 hours)				
Elective Courses (9 hours)				
Thesis Requirements (optional)				
MCEN 5208 Intro to Research (1)				P/F
MCEN 6959 Masters Thesis (3)				
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Overall Requirements				
Thirty hours are required for the M.S. degree. At least 21 must be MCEN courses, or 15 must be MCEN courses in addition to 6 MCEN thesis hours. P/F courses are not included in the 30-hour requirement. The seminars are an MCEN department requirement for graduation.				30

Enrichment Courses: Enrichment courses must be selected from the following list. Special topic courses (MCEN 5228 and MCEN 6228) in the Department of Mechanical Engineering may also be used as enrichment courses.

MCEN 5022 Classical Thermodynamics
MCEN 5032 Sustainable Energy
MCEN 5034 Thermodynamics of Materials
MCEN 5040 Methods of Engineering Analysis II
MCEN 5041 Advanced Fluid Mechanics I
MCEN 5042 Heat Transfer
MCEN 5121 Compressible Flows
MCEN 5122 Statistical Thermodynamics
MCEN 5131 Air Pollution Control
MCEN 5141 Indoor Air Pollution
MCEN 5151 Flow Visualization
MCEN 5154 Energy Conversion & Storage
MCEN 5161 Aerosols
MCEN 6001 Reacting Flows
MCEN 7221 Turbulence

Energy Survey Elective Courses: Students on the Energy and Environment track may find the following courses useful and interesting for completing the 9 hour elective course requirement. Note that EMEN 5000 Engineering Analysis may **not** be used as an elective course.

ASEN 5519 Energy Systems for Earth and Aerospace Applications
CVEN 5830 Energy Technology and Policy
ECEN 5017 Conventional and Renewable Energy Issues
ENER 5001 (ENVS 5820) Renewable Energy Policy
ENER 5002 (BADM 6930) Commercializing Sustainable Energy Technologies

Students on this track may also be interested in the CU Energy Graduate Certificate Program; please check out this program at:
http://rasei.colorado.edu/education/programs-for-graduate-students/45-education/graduate-energy-certification-program/41-graduate-energy-certificate-program