

Frequently Asked Questions

Q: How do I sign up for a minor?

- Answer: See the minor advisor first. The Department of Chemical Engineering requires that you turn in a minor audit form to the advisor before the minor may be added. Then you may submit a request to add the minor using the online curriculum change portlet on MyMichiganTech.

<https://mymichigantech.mtu.edu/>

Q: How do I drop a minor?

- Answer: Submit a request to drop the minor using the online curriculum change portlet on MyMichiganTech. No approval is needed to drop a minor.

<https://mymichigantech.mtu.edu/>

Q: Do credits from a minor double count towards my major?

- Answer: Yes, they may double count for both your major and minor.

Q: Can I minor in more than one thing?

- Answer: Yes, however each course can only be used towards one minor and only two minors can be printed on your diploma.

Q: When are the courses offered?

- Answer: The course schedule is on the web: <http://www.mtu.edu/registrar/> Note that some courses are only offered every other year, so it is best to plan ahead.



Michigan Technological University
Chemical Engineering

Faculty Involved with the Alternative Energy Minor:

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Minor in Alternative Energy Technology at Michigan Tech



The interdisciplinary minor in alternative energy prepares students for careers in energy and related fields. The search for alternative energy sources is an area that has received great attention on and off over the last few decades. A growing area of research and development is currently occurring in the area of hydrogen fuel cells, biofuels, and solar cells. Such technologies have been suggested for transportation (motor vehicles) and stationary (heating and electricity) applications.

Required credits: 18cr
Required classes: See other side



Student Name and ID Number _____

Required Fluid and Heat Transfer Courses (Select one set of courses, 4 - 8 credits)	Credits
CM 3110 Transport/Unit Operations I (3) <i>Prereqs: CM2120 and (MA3520 or MA3521 or MA3530 or MA3560) and MA3160 and PH2100</i> and CM 3120 Transport/Unit Operations II (3) <i>Prereq: CM3110 and CM2120 and (MA3520 or MA3521 or MA3530 or MA3560)</i>	
MEEM 3201 Intro Fluid Mech & Heat Trans (4) <i>Prereqs: MEEM2201 and MEEM2911(C) and MA3520 or MA3521 or MA3530 or MA3560</i>	
MET 3400 Applied Fluid Mechanics (3) <i>Prereqs: MET2130</i> and MET 4300 Applied Heat Transfer (3) <i>Prereqs: MET3600 or (MET3700 and MET4360(C))</i>	
MSE 3100 Materials Processing I (4) <i>Prereqs: MSE2100 and MA2160</i> and MSE 3110 Material Processing II (4) <i>Prereqs: MSE2110 and MSE3100 and (MA3520 or MA3521 or MA3530 or MA3560)</i>	

Required Circuits Course (Select one course, 3 credits)	Credits
EE 2111 Electric Circuits I (3) <i>Prereqs: EE1110 and MA2160</i>	
EE 3010 Circuits and Instrumentation (3) <i>Prereqs: none</i>	
EET 3131 Instrumentation (3) <i>Prereqs: EET1411 or EET2220 or PH2230 or EE2110 or EE3010</i>	

Required Energy Technology Courses (Select 6 or more credits)	Credits
CM/ENT 3979 Alternative Energy Tech and Processes (1) <i>Prereqs: (CH1112 or (CH1150 and CH1151)) and (MA1160 or MA1161)</i>	
EC 4620 Energy Economics (3) <i>Prereqs: EC2001 and UN1015 and (UN1025 or Modern Language, 3000-level or higher)</i>	
EE 3120 Electric Energy Systems (3) <i>Prereqs: EE2110 or EE3010 or (EE2111 and EE2112(C))</i>	
EET/MET 4380 Alternative Energy Applications (3) <i>Prereqs: EET2233</i>	
ENG 4510 Sustainable Futures I (3) <i>Prereqs: none</i>	
ENG 5520 Sustainable Futures II (3) <i>Prereqs: none</i>	
MEEM 4200 Principles of Energy Conversion (3) <i>Prereqs: MEEM 4201(C) or MEEM3230(C) or CM3230 or ENG3200 or MY3100</i>	
MEEM 4260 Fuel Cell Technology (3) <i>Prereqs: MEEM3230 or CM3110 or MEEM 3201</i> or CM/ENT 3974 Fuel Cell Fundamentals (1) <i>Prereqs: CH1112 or (CH1150 and CH1151)</i>	
SS 3800 Energy Technology & Policy (3) <i>Prereqs: UN1015 and (UN1025 or Modern Language, 3000-level or higher)</i>	

Elective Courses (Select Remaining credits, 0 - 5)	Credits
CM 4080 Undergrad Research in Biofuels Engineering (1-6) <i>Prereqs: none</i>	
EE 4219 Intro to Electric Machinery and Drives (3) <i>Prereqs: EE2110 or EE2112 or EE3010</i>	
EE 4227 Power Electronics (3) <i>Prereqs: EE3120 and (EE3130(C) or EE3131)</i>	
EE 4295 Introduction to Propulsion Systems for Hybrid Electric Vehicles (3) <i>Prereqs: MEEM2200 or ENG3200</i>	
EE 4296 Experimental Studies in Hybrid Electric Vehicles (3) <i>Prereqs: none</i>	
EET 3390 Power Systems (3) <i>Prereqs: EET2233</i>	
ENT 29xx Enterprise Project Work* (up to 2 credits) <i>Prereqs: none</i>	
ENT 39xx Enterprise Project Work* (up to 4 credits) <i>Prereqs: none</i>	
ENT 49xx Enterprise Project Work* (up to 4 credits) <i>Prereqs: variable</i>	
MEEM 4220 Internal Combustion Engines I (3) <i>Prereqs: MEEM 3210 or MEEM4201(C)</i>	
MEEM 4240 Combustion & Air Pollution (3) <i>Prereqs: MEEM2200 or MEEM2201</i>	
MET 4390 Internal Combustion Engines (3) <i>Prereqs: MET3600 or MET4300 or (MET3700 and MET4360(C))</i>	
MSE 4410 Science of Ceramic Materials (3) <i>Prereqs: MSE2100</i>	
XX xxxx Undergraduate Research* (1-6) <i>Prereqs: none</i>	
Total Credits Required = 18	

Student Signature _____

Date _____

Academic Advisor Signature _____

Date _____

*Topic must be approved by academic advisor