Frequently Asked Questions

Q: How do I sign up for a minor?
Answer: There is a blue Curriculum Add/Drop Form that you must fill out and have signed by the advisor in the program that administers the minor you are signing up for. Changes are official for a semester when the form is completed by the end of week 1.

Q: How do I drop a minor?
Answer: the blue Curriculum Add/Drop Form is used also for dropping a minor. You do not need any approval signatures; just fill it out and take it to the Registrar’s Office.

Q: Do credits from a minor double count towards my major?
Answer: Yes, they may, but you must earn 6 credits of 3000 or higher level that do not double count towards your major except as free elective. You must have 6 non-overlapping credits not double counting for each minor that you expect to receive.

Q: Can I minor in more than one thing?
Answer: Yes. See above for rules on double counting.

Q: What courses are offered and when?
Answer: The course schedule is on the web: http://www.mtu.edu/registrar/

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: 16cr
Required classes: See other side
Name (please print): ____________________________________________________________________________

(Last)                                                   (First)                                                 (Middle)

Student Number: ___________________________

Primary Major: _____________________________   Expected Major Completion Term: _________________

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Student Signature    Date   Minor Advisor Signature                         Date

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### Required Courses (Select one set of courses, 6-8 credits):

- CM3110 Transport/Unit Operations I (3) **and** CM3120 Transport/Unit Operations II (3) **OR**
- MEEM3210 Fluid Mechanics (3) **and** MEEM3230 Heat Transfer (3) **OR**
- MET3250 Applied Fluid Mechanics (4) **and** MET4300 Applied Heat transfer (3) **OR**
- MY3100 Materials Processing I (4) **and** MY3110 Materials Processing II (4)

### Required Courses (Select one course, 3-4 credits):

- EE2110 Electrical Circuits (3)
- EE3010 Circuits and Instrumentation (3)
- EE2120 Circuits II (4)
- EET3131 Instrumentation (3)

### Energy Technologies Courses (Select 4-6 credits):

- CM/ENT 3974 Fuel Cell Fundamentals (1) **OR** MEEM4260 Fuel Cell Technology (3)
- EC 4620 Energy Economics (3)*
- EE 3120 Introduction to Energy Systems (3)
- ENG/SS4510 Sustainable Futures I (3)*
- ENG/SS4520 Sustainable Futures II (3)*
- MEEM4200 Principles of Energy Conversion (3)
- MET4900 Alternative Energy Systems (3)
- SS3800 Energy Technology and Policy (3)*

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### Elective Courses (Select 1-6 credits):

- CM4000 Chemical Engineering Research (1-3)**
- CM4550 Industrial Chemical Production (3)
- CM4990 Special Topics in Chemical Engg (1-3)**
- EE3221 Introduction to Motor Drives (3)
- EE4000 Electrical Eng. Undergrad Research (1-3)**
- EET3390 Power Systems (3)
- ENT3975 Intro to Vehicle Design & System Modeling (1)
- ENT39xx Enterprise Project Work (up to 4 cr)**
- ENT49xx Enterprise Project Work (up to 4 cr)**
- MEEM3999 MEEM Undergrad Research Project (3)**
- MEEM4220 Internal Combustion Engines I (3)
- MEEM4240 Combustion & Air Pollution
- MET4390 Internal Combustion Engines (3)
- MY4140 Science of Ceramic Materials (3)
- MY4990 MSE Undergraduate Research (1-3)**

*Students are encouraged, though not required, to take at least one of these courses relating to the broader context and societal impacts of alternative technology.

** Topics must be approved by the minor program coordinator.

Courses listed in this minor have the following prerequisites (shown in parenthesis). Concurrency is illustrated by the letter C: ENT4961 (ENT3950 and ENT3960 and ENT4950 and ENT4960), CM/ENT3974 (CH1100 or CH1110 or CH1150), CM3110 (CM2120 and PH2100 and (MA3520 or 3521 or 3530 or 3560)), CM3120 (CM3110 and (MA3520 or 3521 or 3530 or 3560), CM4550 ((CH2400 or CH2410) and CM3510(C)), EC4620 ((EC3001 or EC3002 or EC3003) and UN2002), EE2110 (EE2150 and (MA3520 or 3521 or 3530 or 3560), EE3120 (EE2110 or EE3010), EE3221 (EE2110 or EE3010), EET2120 (EET1120 and (MA1161 (C) or MA1161 (C)), EET3131 (EET1141 or EET2311 or EET2220), EET3390 (EET2233), ENG/SS4510 (UN2002), ENT3975 (ENG1102), MEEM3210 (MEEM2200 and MEEM2700 (C), MEEM3230 (MEEM3210 and (MA3520 or equivalent)), MEEM4220 (MEEM3210), MET3250 (MET2130), MET4300 (MET3600), MET4390 (MET3600 (C), MET4900(MET3600), MY3100 (MY2100), MY3110 (MY3100), MY4140 (MY2100), SS3800 (UN2002).

Refer to the University Catalog for information on university minor requirements.

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Credits Required = 16

Total Credits _______

Student Signature     Date   Minor Advisor Signature     Date

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Academic Year 2013-14