### Interdisciplinary Minor in Alternative Energy Technology

**IMAE**

**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)*

**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), EE3221 (EE2110 or EE3010), EE3222 (EE2110 or EE3010), ENT3975 (ENG1102), MEEM3210 (MEEM2200 and MEEM2700 (C)), MEEM3230 (MEEM3210 and (MA3520 or equivalent)), MEEM4220 (MEEM3210, MET3250 (MET2130, MET4300 (MET3600), MET4900(MET3600), MY3100 (MY2100), MY3110 (MY3100), MY4140 (MY2100), SS3800 (UN2002).

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

Credits Required = 16
Total Credits _______