## Interdisciplinary Minor in Alternative Energy Technology (IMAET)

**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 MET3361 Applied Thermo and Heat Transfer (3) OR
- MY3100 Materials Processing I (4) and MY3110 Materials Processing II (4)

**Required Courses (Select 3-4 credits):**
- EE2111 Electric Circuits I (3)
- EE2112 Electric Circuits II and Lab (4)
- EE3010 Circuits and Instrumentation (3)
- EET3131 Instrumentation (3)

**Energy Technologies Courses (Select 4-6 credits):**
- CM/ENT 3974 Fuel Cell Fundamentals (1) OR MEEM4260 Fuel Cell Technology (3)
- EC4620 Energy Economics (3)*
- EE3120 Introduction to Energy Systems (3)
- ENG4510 Sustainable Futures I (3)*
- ENG5510 Sustainable Futures I (3)*
- ENG5520 Sustainable Futures II (3)*
- MEEM4200 Principles of Energy Conversion (3)
- SS3800 Energy Technology & Policy (3)*

**Elective Courses (Select 1-6 credits):**
- CM4000 Chemical Engineering Research (1-3)**
- CM4550 Industrial Chemical Production (3)
- CM4990 Special Topics in Chemical Engineering (1-3)**
- EE4000 Electrical Engineering Undergraduate Research (1-3)**
- EE4219 Intro to Electric Machinery & Drives (3)
- EE4227 Power Electronics (3)
- EET3390 Power Systems (3)
- ENT4961 Enterprise Project Work (up to 4 cr)**
- MEEM3999 ME Undergraduate Research Project (3)**
- MEEM4220 Internal Combustion Engines I (3)
- MEEM4240 Combustion & Air Pollution
- MET4390 Internal Combustion Engines I (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 (CH1112 or CH1150 and CH1151), CM3110 (CM2120 and (MA3520 or MA3521 or MA3530 or MA3560) and MA3160 and PH2100), CM3120 (CM2110 and CM2120 and (MA3520 or MA3521 or MA3530 or MA3560), CM4550 (CH2410) and CM3510(C), EC4620 (EC2001), EE3120 ((EE1110 or EE3010 or EE2111) and EE2112 (C), EET2120 (EET1120 and MA1150 (C) or MA1115 (C), EET3131 (EET1141 or EET2220 or PH2220 or EE2110 or EE3010), ENG4510 (UN2002), MEEM3210 (MEEM2200 and MEEM2700), MEEM4220 (MEEM2200 and MEEM4220), MEEM4240 (MEEM4240), MET3250 (MET2130), MET4300 (MET3600), MET4390 (MET3610 or MET4300), MY3110 (MY2110 and MY3100 and (MA3520 or MA3521 or MA3530 or MA3560)), MY4140 (MY2100)

<table>
<thead>
<tr>
<th>Credits Required = 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Credits ________</td>
</tr>
</tbody>
</table>

Student Signature Date Minor Advisor Signature Date

---

Academic Year 2014-15