Approved Program of Study for Undergraduate Minors
Georgia Institute of Technology
Office of the Registrar
2014 -2015
Minor in Energy Systems
(Track for Industrial and Systems Engineering Students)

Please type or print in ink:

Name (first/last): 

GT Student ID Number: 

GT Email Address: 

Daytime Phone: 

Major: 

Anticipated Graduation Date: 

In addition to the guidelines listed below, you are responsible for reviewing and following the general guidelines for minors: http://www.catalog.gatech.edu/academics/minorguide.php

The minor includes requirements for courses which cut across disciplines. These courses are intended to add breadth of knowledge in areas outside the student’s major but important to energy systems. A terminal “capstone” or project course provides an opportunity for students from multiple disciplines to work together in multidisciplinary teams on a significant project in the energy area.

The breadth courses and the capstone project course, courses taken by all students completing the minor, require one or more pre-requisites; specifically, basic economics, mathematics, and lab science courses. List of required prerequisites and curriculum requirements and options for this minor are on the following pages. All courses in the minor also must be 3000 level and above.

It is the major advisor’s responsibility to verify that students are not using any courses required by name and number for their major, that they are not using any core area A-E courses (including humanities and social sciences), and that they are not using any courses for more than one minor or certificate. Free electives and technical electives may be used towards minors.

List the courses completed for the requested minor:

<table>
<thead>
<tr>
<th>Course and Section</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Grade</th>
<th>Semester Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT 4813</td>
<td>Project in Energy Systems</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Student Signature: 

Major School Signature: 

Minor School Signature (Management):
Prerequisite Courses
The prerequisites needed for one or more of the courses required for the minor (breadth courses and the capstone project course) are (all existing courses):

a)  Mathematics (MATH 1501, 1502, 2401)
b)  Physics (PHYS 2211, 2212)
c)  Chemistry (CHEM 1310 or 1211)
d)  Economics ECON 2100 or 2101 or (2105 and 2106)

Students ordinarily pursue the minor upon completion of the needed prerequisites. However, the depth course requirements (see below) may be taken as soon as students have met the relevant prerequisites.

Depth Courses
The minor requires **six hours of depth courses** related to energy systems. A list of acceptable courses which meet the depth requirement is provided by each major approving the minor. Depth courses may be taken in the student’s major to ensure the depth in that major needed to pursue a multidisciplinary minor. All acceptable depth courses must be consistent with the goals of the minor. Examples of acceptable courses include engineering courses covering a specific energy technology like solar or relevant engineering science.

Menus of Depth Courses by Program
The Depth Courses below may have additional prerequisites; please check [http://www.catalog.gatech.edu/courses/index.php](http://www.catalog.gatech.edu/courses/index.php) to view the current prerequisites.

- AE/ME 4701  Wind Eng
- ECE 3072  Modern Electric Energy Systems
- ISYE 4803  Energy and Environment
- ME 4011  Internal combustion engines
- ME 4325  Fuel Cells
- ME 4823  Mechatronic sys in Hybrid-electric power trains
- ME 4171  Environmental Design and Mfg
- ME 4172  Sustainable Energy Systems design
- ME 4803  Thermal Systems Engineering
- NRE 4610  Intro to Plasma Physics and Fusion Eng
**Breadth Courses**

The minor requires **six hours of breadth courses** (two courses) from the list below. Students should strive to complete the necessary prerequisites and the depth courses prior to enrolling in the breadth courses. However, depth courses may be taken concurrently with the courses taken to meet the breadth requirement.

- CHEM 3700  Alternative Energy
- EAS 4410  Climate and Global change
- EAS 3110  Energy, the Environment and Society
- ECON 3300  Economics of Energy Systems
- PUBP 3315  Environmental Policy and Politics
- PUBP 3350  Energy Policy
- PUBP 3600  Sustainability, technology and Policy
- PUBP 4420  Science, Technology and Regulation
- PHIL 4176  Environmental Ethics

**Capstone Course**

- GT 4813  Project in Energy Systems

Ordinarily, students must complete all minor requirements before they can register for the Project in Energy Systems course.