**Sustainable Technology Entrepreneurship for Scientists and Engineers Spring 2011**

**MECH/AREC 581A2 Venture Challenge Assignment #4**

**Due Date:** TBD

**Venture Challenge Assignment # 4. Product Design Report**

This assignment is one of the major assignment for your project team. This assignment focuses on the product design aspects of your venture. Each team must produce a document that includes the following:

* Opportunity Statement – (as done previously)
* Estimated size and scope of the product development effort (*one paragraph and perhaps a table*)– see notes, page 3
* Mission Statement (*1 table*) – use template from notes, page 9
* Customer Identification (*1 to 2 paragraphs*) Identify the users (and/or other stakeholders) from whom you plan to acquire customer needs data. Note that in some cases, you might not be able to acquire the data from the actual users, but you might need to use simulated users.
* Customer Needs
  + Acquire raw customer needs statements from users (or simulated users) using the process described on notes06, pages 14 to 16. Compile customer needs data into customer data templates, attach customer data templates
  + Convert the raw customer needs statements into a list of customer needs.
  + For each customer need, identify a metric (notes, pages 21 to 23).
  + Generate a needs-metric matrix for your product (notes, page 25).
* Target Specifications: For as many metrics as possible, develop a quantitative target specification.
* Block Diagram – develop a conceptual block diagram for the overall system.
* Configuration Design – develop preliminary design drawings that represent the final configuration of your system.