Learning of Technical Skills

- They had enough time to relate the theoretical concepts to the lab (70.7%);
- "I am able to apply the concepts and skills learned in this lab to my projects in other courses" (56.9% agreed or strongly agreed);
- the lab helped them to understand the principles of the system (74.9%);
- the lab was interesting (84.4%) and valuable for their learning (71.9%).

Educational Objective

- "The concepts and skills learned in this lab are valuable for my future career" (53.9% agreed or strongly agreed).
- Students are from multiple engineering majors and academic years.
- "I clearly see the connection between this course and …" (communication and teamwork with classmates of various majors, applying knowledge of one field to another field, etc.)
- Our Electrical Engineering (EE) course is required for non-EE majors.
- One student "observed the use of programmable controllers during internship at NASA."
- "The following components of the course have been very valuable for my learning of interdisciplinary skills and transferability of knowledge."

Transferability of Knowledge

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework assignments</td>
<td>Very valuable</td>
<td>70%</td>
</tr>
<tr>
<td>Projects</td>
<td>Very valuable</td>
<td>65%</td>
</tr>
<tr>
<td>Lectures</td>
<td>Very valuable</td>
<td>58%</td>
</tr>
</tbody>
</table>

At the course level:

- The second system uses a programmable device based on PSoC with electrical engineers on the team.
- These are two important outcomes listed in the ABET Criteria (3d) and (3g).

Conclusion and Future Work

- We plan to conduct follow-up surveys with the students who took the course in the Fall 2010 semester and, within a year, would take other lab projects.
- The lab environment is multidisciplinary: non-EE students work on EE projects, guided by EE instructor.
- We investigated student learning in a newly developed lab project, including various important skill sets.