

Feedback collected by the SAB focus group with Senior Design

This year's Senior Design sequence followed a different path than previous years. Six separate teams consisting of approximately nine members were allowed to define their own projects based addressing the worlds growing energy crisis as opposed to all agreeing on a single specified project. Each team was given \$1000 of House Bill money to purchase components for their projects. The feedback shown here was obtained from an informal full-class discussion led by SAB members Matt Dixon, and Damon Givens. The discussion was held near the end of spring quarter and no faculty was present.

Projects & Project Definition

- Similar to last year, students felt the process of defining an appropriate project with a feasible scope took too long.
 - More direction and guidance at the beginning of the course with project definition is needed. Many students expressed that they did not have a clear idea of what was and was not feasible as well as what resources were available to create a prototype.
- Students recommended all groups have the same projects. There was much support for the idea of a “competition” (similar to previous years).
- The concept of using existing projects was split 50/50. Many liked having a base to start, while other preferred to have their own projects with their own identities.
- Focusing on the design of specific components within an entire system was difficult and confusing. Students recommended smaller scope projects where an entire system could be designed and prototyped.
- Focusing on designing of specific components within a system caused confusion and large error in cost estimations. Many felt their cost analyses were not reliable.

Team structure

- 9 person teams worked well.
 - Overall students felt that 9 person teams were manageable and adequate for completing their respective scopes.
 - Similar size teams should be formed next year.
 - It is imperative that faculty guide students so a feasible project is defined for these size teams. Students often do not have a grasp of what is feasible and able to be accomplished during the year and what is not.
- The majority expressed that there was enough exposure to group work in other classes prior to Senior Design. This was contrary to the opinion expressed during the 2006 Senior Design Focus Group.

Evaluation

- As in 2005-2006 individual accountability became a problem within teams.
 - Self-policing teams is difficult when all members are essentially of equal ranking.
- Students liked the style of the peer evaluations, but many felt they did not count enough toward the final grade. Many students were still able to slide by with minimal effort and receive respectable grades.
 - Though time at the end of quarters is precious, individual meetings were extremely helpful and should be continued. Many express interest in having at least one individual meeting per quarter.
 - Students often felt individual assessment and feedback, especially during presentations, was too generous. Dr. Kremer should not be afraid to make comments for improvement and point out mistakes to use as learning experiences.

Lab 011 and Prototype Build

- Shifting Randy's hours to later in the day was extremely helpful! However, he should not make exceptions to stay late and help teams. This often caused conflict when teams expected him in at a certain time and he did not arrive until a later time because he stayed late the night before to assist a team. Overall, the flexibility in his hours was beneficial.
- Overall, students felt Randy's approach to safety was acceptable.
 - Implementation of a dress code was suggested for the lab. This was mainly the result of too many students wearing sandals in the lab.
 - Removable of some/all of the tables would provide a safer environment when working on larger projects. These tables were deemed useless during the prototype build and seemed to collect clutter. Students would be more prone to put tools back after use if the tables were not present.
- Randy offered sufficient help and supervision for all teams and manufacturing leaders. Each team felt they had adequate assistance to complete the prototype build.

Has the ME program prepared you for the next step?

- Overall student felt confident that they were prepared to take the next step in their engineering careers but offered the following recommendations:
 - Students' felt more hands on experience is necessary to provide a deeper understanding of the coursework. **Note: This group of students was not affected by any of the new curriculum changes. This should be reviewed in the following years to see if a similar consensus still exists.
 - An HVAC class would be beneficial.
 - More CAD experience is necessary than what is offered in ME350.