
MEMORANDUM

TO: PROFESSORS EILEEN CASHMAN AND LESLIE MILLER-ROBBIE
FROM: ENGR 115 STUDENT CHRISTOPHER BAUTISTA
SUBJECT: SERC AND CCAT FIELD TRIP SUMMARY
DATE: APRIL 18, 2016

Purpose:

The purpose of this memorandum is to provide a briefing on the ENGR 115 class field trip to the Schatz Energy Research Center (SERC) and the Campus Center for Appropriate Technology (CCAT) on Friday April 15, 2016 and on what was learned on the tours of the sites.

Discussion:

During the visit to the Schatz Energy Research Center the class was introduced to the project "Energy for the Developing World". In hopes of decreasing the reliance on bio and fossil fuels in small villages, the project's goal is to educate on and provide sustainable and renewable electricity to rural areas of developing countries that are too far from the power grids of the major cities. The project originally started in Africa and was called Lighting for Africa, but was changed after expanding to more countries. The tour guide went over how SERC has become accredited by the ANSI-ASQ National Accreditation Board, and SERC's role in testing the equipment sent to these countries. After going over the Energy for the Developing World project, the class was given a summary of SERC's involvement in hydrogen fuel cell vehicle testing, where SERC employees collected data on how hydrogen fuel cell vehicles preformed in Humboldt climate. Lastly, the tour guide also discussed SERC's plans in optimizing biomass energy use in the local area. Because lumber is a large part of the local economy, there is a significant amount biofuel that can be collected and utilized as an energy source.

While at CCAT, the class was given quick briefing on what CCAT goals are and on some of the technologies and techniques utilized in CCAT's goal of zero net energy. The objective of CCAT is for the house to be sustainable, leaving as minimal environmental impact as possible using environmentally sound methods. Some of the ways the CCAT house have undertaken this endeavor are by using insulating materials to regulate indoor temperature over heaters and air conditioning, growing its own food in small gardens, and constructing fences and walls out of recycled materials.

Conclusion

Both tours provided insight into the type of work environmental engineers are needed for and how an engineer might apply his or her knowledge for sustainable practices. Perhaps the next step for a student in this ENGR 115 course should be to take advantage of any volunteer opportunities offered by either the SERC or CCAT programs.