

Senior Design Project Description

Company Name	UTC Aerospace System	Date Submitted	06/25/2017
Project Title	Utility Mapping (UTCA_MAP)	Planned Starting Semester	Fall 2017

Personnel

Typical teams will have 4-6 students, with engineering disciplines assigned based on the anticipated Scope of the Project. 250 hours are expected per person.

Complete the following table if this information is known, otherwise the Senior Design Committee will develop based on the project scope:

Discipline	Number	Discipline	Number
Mechanical	1	Electrical	2
Computer		Systems	2
Other ()			

Project Overview:

Utility Mapping – Students will get together and help UTC Aerospace reduce their energy footprint by becoming cognizant of their spending via real-time information. The students will work with facilities and the engineering team at UTAS Monroe to help create a system that will track temperature, water, electricity, HVAC and other utility energy usages throughout the facility by being able to view data and trends real time.

Initial Project Requirements:

The team will put together a plan to be able to track different utility parameters throughout facility by utilizing the layout. Based on this plan, sensors tracking pressure, temperature, voltage, current, and flow rate (Air and water) will be placed strategically throughout facility to help track the company's expenditure of energy real time. This data will be viewed by placing monitors that can pick this data up wirelessly throughout facility. Based on the data gathered, the students will make recommendations for cost savings regarding the utility expenses.

Expected Deliverables/Results:

The team will deliver:

- A GUI program that will be user-friendly and modern looking in helping anyone in the facility to track:
 - Water Flow rates and usage
 - Electricity spending



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- HVAC usage
- Temperature
- These data parameters will be tracked and recorded real time and inputted to a program that will track the trends year to date and month to date for anyone desiring it.
- Recommendations for utility costs savings.

Disposition of Deliverables at the End of the Project:

Software and Hardware developed will become property of UTC Aerospace Systems at Monroe, NC.

List here any specific skills, requirements, knowledge needed or suggested (If none please state none):

Programming

Electrical

Sensor

Automation

User Interface design to maximize ease of use