

Senior Design Project Description

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| Company Name | Carrier Corp | Date Submitted | 6/30/2017 |
| Project Title | Air conditioning Moisture Detector –Phase 2 (CAR_MOIST2) | Planned Starting Semester | Sept 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 | 3 | Electrical | 3 |
| Computer | | Systems | |
| Other () | | | |

Project Overview:

This project is a follow-on to continue the development of the proof of concept refrigerant moisture detector that was proved as part of the Fall 2016/Spring2017 UNC Charlotte Senior Design Project. The device is expected to be further designed, defined, qualified and integrated to a graphical controller that will represent a HVAC control system.

Initial Project Requirements:

Develop a <\$70 moisture detector based on the concept that was developed by last year's UNC Charlotte project team. The hardware for the device must be completely specified in documentation. All control software to be written and documented. A user interface must be created and a user manual written. All components need to be qualified and be ready to be produced.

Expected Deliverables/Results:

- A working production like device (machined parts used in lieu of tooled parts)
- Completed design, software, user manual documents
- Control software with documentation and user manual



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- Supporter consulted before Expos to see if there is any steps to take to protect any IP, should any arise during the project.

Disposition of Deliverables at the End of the Project:

All deliverables to be given to Industry Supporter immediately after the conclusion of the May Expo. Any material ready before the Expo can be delivered if not needed as part of the Expo presentation.

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

- Mechanical design
- Software
- Video (to capture operation for user documentation)
- Design reviews to be performed at the Industry supporters Charlotte location.