

Senior Design Project Description

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|----------------------|---------------------------------------|-------------------------|----------------|
| Company Name | Cardinal Health | Date Submitted | March 14, 2017 |
| Project Title | Parts Counting System (CARD_COUNT) | Planned 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 | 4 | Electrical | |
| Computer | | Systems | 2 |
| Other () | | | |

Project Overview:

Cardinal Health manually counts many components such as needles, syringes and blades when they are taken out of storage for use. This purpose of this project is to design and fabricate a manually fed portable Part Counting System capable of counting the above component parts with > 99.XXXX% accuracy.

Initial Project Requirements:

Before the system is designed a baseline study of the current process must be performed. The project must determine which of these three components can be accurately counted and if more than one can be counted using the same system. The system will be designed to count hand fed parts. The system must be compatible with the existing conveyor system. Once counted, parts should feed into a discharge system. The system must have a digital read out of the number of pieces counted. The system must be tested for accuracy and repeatability.

The goal is to set the number of components to be fed, have the parts counted, and then stop the conveyor.

The cost/benefit ratio for the recommended modifications will be provided at the start of the project.

Expected Deliverables/Results:

A report must be provided describing the results of the analysis and design. The report will



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include a concept assembly drawing with BOM. Costs estimates are to be provided for all BOM items.

A prototype will be built and tested.

Disposition of Deliverables at the End of the Project:

Please deliver to:

Cardinal Health
Attn Theresa Houser
785 Fort Mill Highway
Fort Mill, SC 29707

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

None