



UNC CHARLOTTE

The WILLIAM STATES LEE COLLEGE of ENGINEERING

Senior Design Project Description

Company Name	Livingston & Haven	Date Submitted	April 23, 2018
Project Title	Manufacturing's Spare Inventory Process Project (L&H_SPARE)	Planned Starting Semester	Fall 2018

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		Electrical	
Computer		Systems	6
Other ()			

Company and Project Overview:

Livingston & Haven has been in business since 1947 is located at 11529 Wilmar Blvd in Charlotte. The location is right off Westinghouse Blvd overlooking Carowinds. L & H is a distributor of motion control products and solutions – simply put we make things move. We use hydraulics, automation and pneumatics as our ways to move things, and we are supported by our hose and fittings group and our lubrication group.

L & H is a privately held by the Vann family and they are involved in the business. The UNCC team will meet them over the time of project. We have 140 associates located at our Charlotte facilities with another 40 working out of their house calling on our customers. We call on customers in NC, SC, VA, WVA, GA & Tn.

We are a value add distributor, so out of our \$72,000,000 in annual sales, \$16,000,000 goes through our manufacturing group. L & H is a job shop, engineering, building and installing hydraulic power units, control panels, custom safety guarding and many other unique solutions to our customer problems in the southeast and the world.

Some examples of products produced by L&H:



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Over the last few months L & H has been doing a major 5S project within our manufacturing group. We are in the sort process moving into the set process soon. One thing that became very evident during this process is we often wind up with extra product for the jobs going through our shop. We have no process to handle this inventory and often place on shelves using “local knowledge” to know it is there to use for a future project. We have 6 separate areas in manufacturing that have “excess” non-stock inventory – the dollars mount up.

Project Requirements:

- L & H will provide all safety equipment and safety training prior to commencing the project including the proper safety training.
- L & H will “on-board” the team as we do all associates including:
 - Proper forms as required by HR
 - Testing we do for all new associates
 - Please note, one of our goals is to show the team the real world – yes, it is different from the academic world.
- The team will meet with key stakeholders at the beginning of this project to gather their input on the problem. Stakeholders would include each department head, Tammy Trowbridge, Chris Mauldin, Vann Strickland and others as required.
- The team will develop a current state map for each of the 6 areas and begin the process for a future state map,
- Decision will need to be made on creating one map that each area uses, including:
 - How to identify product that was not needed in the project:
 - Why was it ordered?
 - Ordered to much
 - Wrong part – why?
 - Can it be returned and a process for returning
 - If not returnable where does the part go:
 - How do account for the product for future projects – how do we make it visible?
 - Manual process / automatic process



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- This past year's team said we did not have an ABC list of what to do to move their project forward – we told them if we knew what to do, we would have fixed the problem ourselves. So, we know we have a problem, we have associates who will assist, but we need this team to dig in find the issues and working with our associates help to design a process that makes sense and works.

Expected Deliverables/Results:

- Current state map / maps
- Future state map / maps – hopefully just one process
- Then put the process into place – manual / automated
- Time savings that will be accounted for
 - Dollar savings for proper accountability of excess inventory that was:
 - Returned
 - Had to keep and became visible
 - Other
- Create physical location / locations for the inventory.

Disposition of Deliverables at the End of the Project:

- L & H will support the team with hardware at the May Fair
- Any hardware will then remain at L & H as we see possible shelving / cabinets being utilized to complete this project

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

- Curiosity & interest in the project
- Motivated, travel to site and management presentations required.
- Some level of knowledge of Lean manufacturing / creation of mapping processes
- Students on this project are required to contact L&H Technical rep and complete all of the following tasks **prior** to the Kickoff meeting on August 29, 2018:
 - Get L & H shirts on order
 - Have the students get their steel toes boots (L & H buys)
 - Take the required safety training
 - Take the Myers Briggs test – we did a smaller version last year and it helped the team – we will be doing a deeper dive this year.