



Company Information

Company Name	<i>J&L Machine & Fabrication</i>	Date Submitted	<i>05/6/2022</i>
Project Title	<i>Operations Re-engineering - Phase 2 (J&L_OPS2)</i>	Planned Starting Semester	<i>Fall 2022</i>

Senior Design Project Description

Personnel

Typical teams will have 4-6 students, with engineering disciplines assigned based on the anticipated Scope of the Project.

Please provide your estimate of staffing in the below table. The Senior Design Committee will adjust as appropriate based on scope and discipline skills:

Discipline	Number	Discipline	Number
Mechanical		Electrical	
Computer		Systems	5
Other ()			

Company and Project Overview:

- J&L is a precision Fabrication and Machining provider focusing on Fabrication, Precision machining and Powder coat applications.
- Services include: CNC forming, turning, milling, laser cutting, part bending, welding, and painting
- Customers like Daimler Mercedes Truck Division purchase parts from J&L for their assembly like brackets, chassis plates, shafts, etc.
- J&L is executing a 5-years business plan looking at tripling revenue. With such growth coming ahead, J&L is looking to re-engineer its entire processes to extract efficiencies and remove bottlenecks towards increasing productivity and in parallel continue to meet ever-demanding customers' deliveries.
- Website: <http://jlmaf.com/>

Project Requirements:

- Map J&L entire operational processes from sales to quoting to order entry to pricing to engineering review to machines programming to material purchasing to material receiving to production scheduling to HR manpower planning to manufacturing to maintenance to shipping to invoicing and finally to payment collection.
- Looking for the team to apply their engineering skills in mapping these processes and challenging the inputs to each single process, its relationship across the entire value chain, constraints on hand, and solutions to removing these constraints.

Expected Deliverables/Results:



- A complete efficient process map that enables J&L to become a Lean manufacturer, triple its revenue, and meet customers' deliveries expectations.

Disposition of Deliverables at the End of the Project:

- New Operational Process Map

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

- Industrial Design
- Operations Design
- Statistical Analysis
- Organizational Behavior
- Extensive travel will be required to J&L's facility in Stanley NC. Mileage will be reimbursed according to ISL purchasing procedures.