 **Project: Warehouse Process Flows**

**Course**

**Supply Chain I - Warehousing**

**Objectives**

* **Student will examine and compare the process flows in a distribution center such as Amazon and one such as Mahaffey USA in order to determine the desired layout of the warehouse/DC**
* **Student will create a floorplan for the warehouse/DC in MS Excel using a process flow that creates efficiency**

**TN CTE State Standards**

**Warehousing Management**

**15) Create a layout depiction for the work-based learning placement’s processing of incoming and outgoing, cross-docking, and storage of products. Provide a sketch of the shipping and receiving area and write out a standard operating procedure for each. 16) Create a flow chart for the processing of incoming goods and materials used at the work-based learning placement. Include processes for dealing with damaged, incorrect, and incomplete orders. 17) Job shadow or interview a warehouse manager or logistician and assess how they plan for the shipment of a product. Given a set of constraints, such as a specified timetable, destination, quantity, or other factors, determine how the number of pallets needed and assignment of dock doors to accommodate the appropriate number of loads is calculated.**

**Due Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Grading**

**Project will be graded using the “Project with Presentation Rubric” and is worth 100 points.**

**Resources**

**Warehouse Material Flows and Flow Charts, Interlake Mecalux,** <https://www.interlakemecalux.com/warehouse-manual/warehouse-design/warehouse-material-flowchart>

**Key Factors to Consider When Planning and Designing Warehouses, Logistics Bureau,** <https://www.logisticsbureau.com/warehouse-design-key-factors-to-consider/>

**Amazon Facility Tour -** <https://amazonfctours.com/navideotour>

**Mahaffey USA –** [www.mahaffeyusa.com](http://www.mahaffeyusa.com)

**Background Information**

Flows are the movements of the units as they enter the warehouse, move around it, and finally exit. There are three main types of flows: simple, medium, and complex.

**Simple Flow**



**Medium Flow**



**Complex Flow**



**Field Trip**

Mahaffey USA – Fall 2021

**Pre-Project Activities**

1. Watch the video “Warehouse Layout & Product Flow Options” at <https://www.youtube.com/watch?v=0OeStxbzKsM&t=40s>
2. Review the article “Key Factors to Consider When Planning and Designing Warehouses”
3. Watch the video tour of an Amazon Facility - <https://amazonfctours.com/navideotour>
4. What might be differences in the warehouse layout for Amazon and Mahaffey USA?



**Project**

**Essential Question**: How can a company structure its process flow in order to maximize space and movement in the warehouse/distribution center?

1. Sketch the existing warehouse layout for Mahaffey USA
2. Define the inputs and outputs
3. Determine any special needs (or areas) the company will require
4. Re-design the warehouse layout for Mahaffey USA – write a descriptive summary of why you choose this particular layout and how it can aid in efficient production (must use MS Excel for warehouse design)