**Assignment**

**Independent Demand Inventory**

**ISM-6436 Operations & Supply Chain Processes**

Complete the following problems:

1. Page 545, number 10, parts a and b.\*
2. Page 546, number 16. \*
3. Page 550, number 38. \* Determine what order quantity would minimize the TAC?
4. Page 550, number 38. \* For this second version of the problem the vendor is adding a fourth level to the price schedule of $17.50 for all orders over 5000. You should find this option not cost effective. What price would make you indifferent between this option and the lowest TAC of the other three options?
5. A product is manufactured in-house. The annual demand is 17,500 units. Setup costs for the manufacturing process are $400 and the holding cost in inventory for this item is $2.25 per unit per year. The production process, when operating, manufactures the item at a rate of 300 units per day, and the plant runs 250 days per year.
   1. What is the ERS quantity?
   2. When the production process is running, how long will be the run time?
   3. What will be the maximum amount held in inventory of this item?
   4. Once the production process is shut down, how many days will pass till it’s time to restart the process for another batch?

**Instructions:** Your deliverable will be a single functioning Excel spreadsheet with each problem on a separate worksheet page. The spreadsheet file will be uploaded to Canvas by the assignment deadline stated on the Lesson Plan. Include a cover page for your file which lists your name and the names of any other group members deserving credit for this work. Group sizes may be no larger than 4, and only one group member need submit the final deliverable.

\*Jacobs, F. Robert and Richard B. Chase, Operations and Supply Chain Management, 14th ed., McGraw-Hill Irwin, 2014.