Class Activities

# Chapter 16: Inventory Control Models

**Activity 1: Individual Exercise**

Learning objective: Describe the Basic Economic Order Quantity (EOQ) model, its assumptions, and use the model to solve problems

Prepare an example similar to Example 16.1. Ask students to suggest an order quantity without using the EOQ model. Have each student compute the total annual ordering cost and total annual holding cost using the order quantity suggested. Draw on the board two axes: total inventory costs as the vertical axis and order quantity as the horizontal axis (similar to Figure 16.3). Come together as a class and plot each student’s total annual ordering and holding costs on the graph. Use the resulting graph to explain the EOQ model.

**Activity 2: Activity for Small Groups**

Learning objective: Solve problems using the EOQ model with quantity discounts

Prepare an example similar to Example 16.5 with additional rows of discounts if desired. Have students find two other classmates to form a group. Provide each group with data on annual demand, ordering cost per order, unit price, and holding cost as a percentage of the unit price. Instruct each group to use the given data to compute the EOQ as well as the total inventory costs using three order quantities: 50% of EOQ, EOQ, and 150% of EOQ. Draw on the board two axes: total inventory costs as the vertical axis and order quantity as the horizontal axis (similar to Figure 16.6). Come together as a class and plot each group’s total inventory cost lines on the graph. Use the resulting graph to explain the EOQ model with quantity discounts.

**Activity 3: Activity for Small Groups**

Learning objective: Explain periodic review systems, and work typical problems; Discuss single period inventory systems, and work typical problems

Have students form into three groups. Assign each group one of the inventory system: fixed-order interval, fixed-order quantity, and single-period. Discuss among one another in the group what is the inventory system assigned. Illustrate the assigned inventory system with an example. Present the group’s work to the rest of the class.