

## **Homework 2 Instructions**

Course: Operations Management

A company wants to determine the best lot-sizing technique to determine the ordering schedule for a component Y that they are ordering from one of their suppliers. They would like to compare the following three options:

- lot-for-lot
- EOQ lot sizes
- Silver-Meal method

The best technique would be the one that will guarantee the lowest costs of managing the inventories, that is inventory holding and ordering costs. Ordering/setup cost is estimated to be 80 EUR and the holding cost per week is 1 EUR per unit. Delivery lead time is 1 week.

They have already determined the gross requirements for the component Y through the following 10 weeks and they are given in the following table:

	1	2	3	4	5	6	7	8	9	10
Gross requirements	30	50	0	20	40	0	60	0	30	40
On-hand inventory	65									
Net requirements										
Planned order receipts										
Planned order releases										

First determine the net requirements and then think about using different lot sizing options to satisfy these requirements.

Questions:

For the proposed three lot sizing techniques determine the ordering schedule (Planned order releases) for the following 10 weeks and calculate the cost of managing the inventories. Which technique performs the best?

What is the difference if the holding cost per week changes to 2 EUR per unit?

Some tips:

When using EOQ method use the average gross requirements as a demand estimate to determine the average demand. With the EOQ method you would always order the EOQ when you anticipate material shortage.

Inventory costs are only incurred if the product has to wait to be consumed. There is no holding cost if the product is consumed in the same week when it becomes available (Planned order receipts).

Write a short report which should include all your calculations. Report can be either done in Excel or written on paper by hand and scanned.