

Master Production Scheduling

☒ **Batch production: batch size = 2500**

$$\text{☒ } I_t = \max\{0, I_{t-1}\} - \max\{F_t, O_t\}$$

$$Q_t = \begin{cases} 0, & \text{if } I_t > 0 \\ 2500, & \text{otherwise} \end{cases}$$

$$\text{☒ } I_1 = \max\{0, 1600\} - \max\{1000, 1200\} = 400 > 0$$

$$\text{☒ } I_2 = \max\{0, 400\} - \max\{1000, 800\} = -600 < 0 \Rightarrow Q_2 = 2500$$

$$\text{☒ } I_2 = 2500 + 400 - \max\{1000, 800\} = 1900, \text{ etc.}$$

MPS		Jan				Feb			
		Week				Week			
Current Inventory = 1600		1	2	3	4	5	6	7	8
forecast F_t		1000	1000	1000	1000	2000	2000	2000	2000
orders O_t		1200	800	300	200	100			
Inventory I_t	1600	400	1900	900	2400	400	900	1400	1900
MPS Q_t			2500		2500		2500	2500	2500
ATP		400	1400		2200		2500	2500	2500