

# Job Order and Process Costing

Chapter 16

## Learning Objective 1

Distinguish between job order costing and process costing

## Cost Accounting Systems

- ▶ Gather information to determine the production cost per unit
- ▶ Help managers
- ▶ Assign costs to products using one of two systems

## Job Order vs. Process Costing

- ▶ For companies that manufacture batches of unique products or specialized services
- ▶ Accumulates cost per batch or job
- ▶ More prevalent with service-based economies and ERP systems
- ▶ For companies that produce identical units through a series of processes
- ▶ Accumulates cost of each process needed to complete the produce

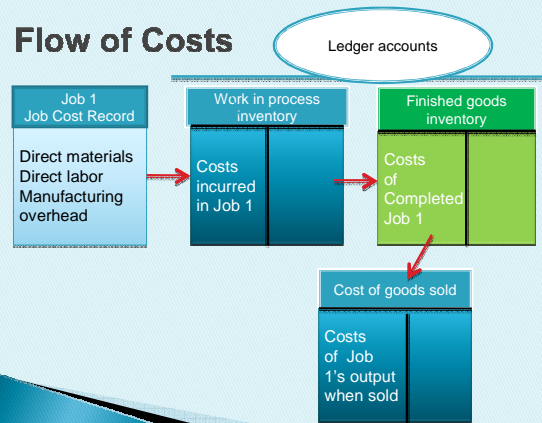
Job Order Costing

Process Costing

## Learning Objective 2

Record materials and labor in a job order costing system

## Flow of Costs



## Purchasing Materials

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
	Materials inventory			
	Accounts payable			

Subsidiary Materials Ledger Card									
Item No.	Received			Used			Balance		
Date	Units	Cost	Total	Units	Cost	Total	Units	Cost	Total
	<b>Purchases</b>								

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7

## Using Materials

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
	Work in process inventory		Direct materials	
	Manufacturing overhead		Indirect materials	
	Materials inventory			

Subsidiary Materials Ledger Card									
Item No.	Received			Used			Balance		
Date	Units	Cost	Total	Units	Cost	Total	Units	Cost	Total
	<b>Requisitioned</b>								

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8

## Materials Requisition

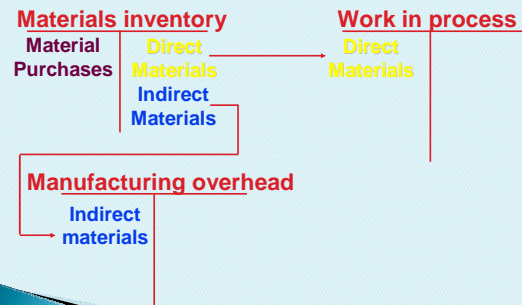
- Used to authorize the use of materials on a job
- Serves as a source document for recording material usage

MATERIALS REQUISITION NO.					
Date	Item	Quantity	Unit cost	Job No.	

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9

## Accounting for Materials



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10

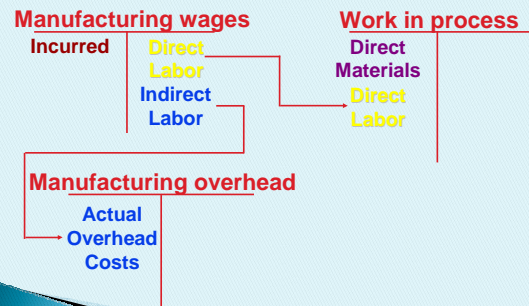
## Job Cost Record

Job Cost Record							
Job No.	Customer Name and Address						
Job Description							
Date Promised		Date Started			Date Completed		
Date	Direct Materials		Direct Labor		Overhead Costs Applied		
	Requisition No.	Amount	Time Ticket No.	Amount	Date	Rate	Amount
Overall Cost Summary							
Materials							
Labor							
Overhead							
Totals							Total Job Cost

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11

## Accounting for Labor



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12

## Accounting for Labor

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
	Manufacturing wages			
	Wages payable			

## Labor Time Record

LABOR TIME RECORD	
Employee <u>J. Khan</u>	No. <u>K13</u>
Job <u>J9738</u>	
Time:	
Started: <u>800</u>	Rate: <u>\$11.25</u>
Stopped: <u>1500</u>	Cost of Labor
Elapsed: <u>7 hours</u>	Charged to Job \$ <u>\$78.75</u>
Employee: <u>J. Khan</u>	Supervisor: <u>M. Morley</u>

## Accounting for Labor

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
	Work in process inventory			
	Manufacturing overhead			
	Manufacturing wages			

## Learning Objective 3

Record overhead in a job order costing system

## Accounting for Manufacturing Overhead

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
	Manufacturing overhead			
	Accumulated depreciation			
	Manufacturing overhead			
	Cash			
	Manufacturing overhead			
	Property taxes payable			

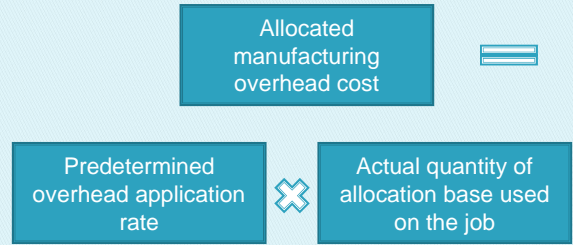
## Assigning Manufacturing Overhead to Jobs

- ▶ Actual overhead costs are debited to the Manufacturing overhead account
- ▶ Overhead costs are essential to production
- ▶ Must be assigned to specific jobs to determine full cost
- ▶ A predetermined overhead rate is used

## Predetermined Manufacturing Overhead Rate

$$\frac{\text{Total estimated manufacturing overhead costs}}{\text{Total estimated quantity of the manufacturing overhead allocation base}}$$

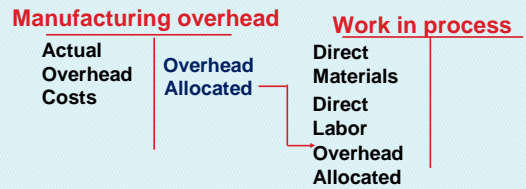
## Allocate Overhead Costs to Jobs



## Accounting for Assignment of Overhead to Jobs

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
	Work in process			
	Manufacturing overhead			

## Accounting for Manufacturing Overhead



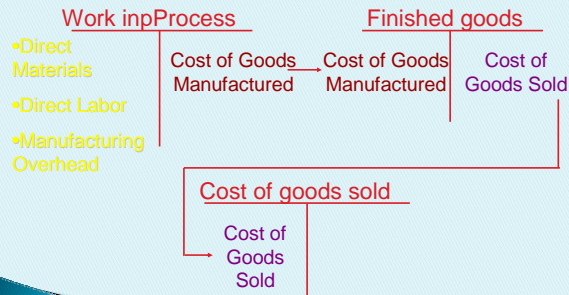
## Learning Objective 4

Record completion and sales of finished goods and the adjustment for under- or overallocated overhead

## Accounting for the Completion and Sale of Finished Goods

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
	Finished goods			
	Work in process			
	Accounts receivable			
	Sales revenue			
	Cost of goods sold			
	Finished goods			

## Accounting for Finished Goods



## Exercise 16-16

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
(a)	Advertising expense			
	Cash			
(b)	Manufacturing wages			
	Cash			
(c)	Materials inventory			
	Accounts payable			

## Exercise 16-16 (continued)

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
(d)	Work in process			
	Manufacturing overhead			
	Materials inventory			
(e)	Work in process			
	Manufacturing overhead			
	Manufacturing wages			

## Exercise 16-16 (continued)

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
(f)	Manufacturing overhead			
	Accumulated depreciation			
	Prepaid insurance			
	Property taxes payable			
(g)	Work in process			
	Manufacturing overhead			
	(\$9,350 Direct labor x 160%)			

## Exercise 16-16 (continued)

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
(h)	Finished goods			
	Work in process			
(i)	Accounts receivable			
	Sales revenue			
	Cost of goods sold			
	Finished goods			

## Adjusting Under- or Overallocated Manufacturing Overhead

### Manufacturing overhead

Actual costs

Applied to jobs

If actual costs are greater, overhead is underallocated

If amount applied to jobs is greater, overhead is overallocated

## Adjusting Under- or Overallocated Manufacturing Overhead

- ▶ The underallocated or overallocated overhead amount is closed to Cost of goods sold

GENERAL JOURNAL			
DATE	DESCRIPTION	DEBIT	CREDIT
	Cost of goods sold		
	Manufacturing overhead		

GENERAL JOURNAL			
DATE	DESCRIPTION	DEBIT	CREDIT
	Manufacturing overhead		
	Cost of goods sold		

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31

## Learning Objective 5

Calculate unit costs for a service company

## Service Companies

- ▶ Have no inventory
- ▶ Managers need to know the cost of jobs to set prices

Cost of Job X	\$1,000
Standard markup of 40%	400
<b>Sale price of Job X</b>	<b>\$1,400</b>

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33

## Assigning Labor Costs to Service Jobs

- ▶ Often service companies largest cost is labor
- ▶ Employees keep track of time spent on each client or job

$$\text{Hourly rate to the employer} = \frac{\text{Employee's annual salary}}{2,000 \text{ work hours per year}}$$

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34

## Exercise 16-23

$$\text{Hourly direct labor costs} = \frac{\text{Direct labor costs}}{\text{Direct labor hours}}$$

$$\$? = \frac{\$2,150,000}{14,000 \text{ hours}}$$

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35

## Exercise 16-23 (continued)

$$\text{Predetermined indirect cost allocation rate} = \frac{\text{Expected indirect costs}}{\text{Expected direct labor hours}}$$

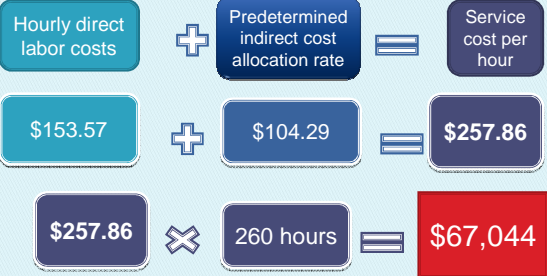
Office rent	\$260,000
Support staff	850,000
Utilities	350,000
<b>Total</b>	<b>\$1,460,000</b>

$$\$104.29 = \frac{\$1,460,000}{14,000 \text{ hours}}$$

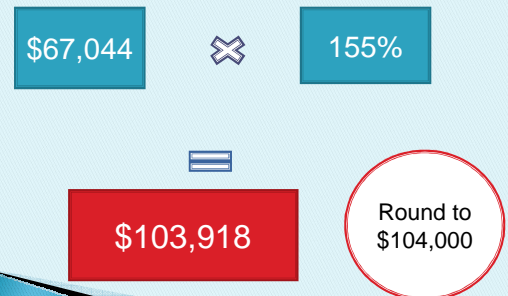
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36

### Exercise 16-23 (continued)



### Exercise 16-23 (continued)



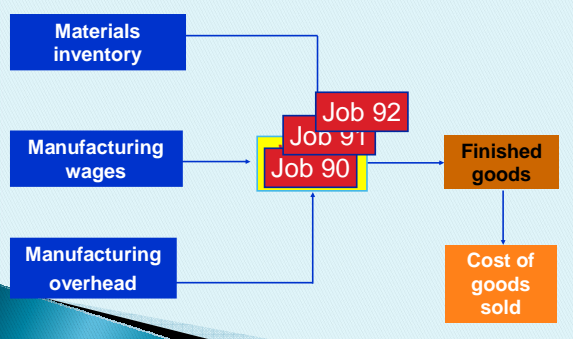
## Appendix A

Process Costing: Weighted-average method

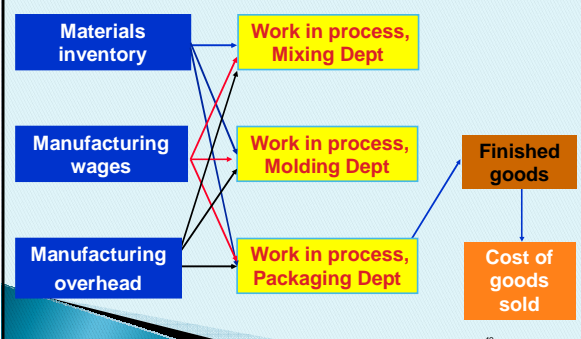
### Process costing

- ▶ Used by companies who manufacture large quantities of similar products
- ▶ Building blocks
  - Conversion costs
  - Equivalent units

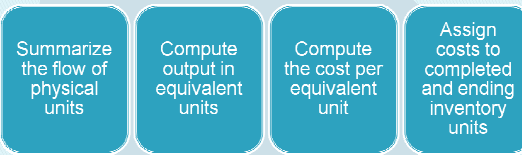
### Job Order Costing



### Process Costing



## Steps of Process Costing



## Process Costing Example

Department 1				
	Physical units	Dollars		Physical units
Beginning inventory	0	\$ 0	Transferred out	40,000
Production started	50,000			
Direct materials		\$140,000		
Conversion costs				
Direct labor		20,000		
Manufacturing overhead		48,000		
Total to account for	50,000	\$208,000		
Ending inventory-25% complete				10,000

## Steps 1 and 2

Department 1			
Flow of production	Step 1	Step 2: Equivalent units	
	Flow of physical units	Direct materials	Conversion costs
<b>Units to be accounted for:</b>			
Beginning work in process	0		
Started in production	50,000		
Total physical units to account for	50,000		
<b>Units accounted for:</b>			
Completed and transferred out	40,000	40,000	40,000
Ending work in process	10,000	10,000	2,500
Total physical units accounted for	50,000		
<b>Equivalent units</b>		50,000	42,500

Ending WIP units are 25% complete as to conversion costs

## Step 3: Compute Cost per Equivalent Unit

Department 1		
	Direct materials	Conversion costs
Beginning work in process	0	0
Costs added	\$140,000	\$68,000
Divide by equivalent units	÷ 50,000	÷ 42,500
Cost per equivalent unit	<b>\$2.80</b>	<b>\$1.60</b>

## Step 4

Department 1			
	Direct materials	Conversion costs	Total
Completed and transferred out	[40,000 units x (2.80 + 1.60)]		\$176,000
Ending work in process			
Direct materials	(10,000 x 2.80)		\$28,000
Conversion costs		(2,500 x 1.60)	4,000
Total cost of ending inventory			32,000
Total costs accounted for			\$208,000

## Accounting for Transferred Out Costs

GENERAL JOURNAL			
DATE	DESCRIPTION	DEBIT	CREDIT
	Work in process – Dept. 2	176,000	
	Work in process – Dept. 1		176,000



## Work in process - Dept. 1

Work in process – Dept. 1	
Direct materials	140,000
Direct labor	20,000
Manufacturing overhead	48,000
	<hr/>
	176,000
Ending WIP	32,000
	Completed and transferred out

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49

## End of Chapter 16