Chapter 2

Accounting for Materials
Learning Objectives

LO1 Recognize the two basic aspects of material control.

LO2 Specify internal control procedures for materials.

LO3 Account for materials and relate materials accounting to the general ledger.
Learning Objectives

LO4 Account for inventories in a just-in-time system.

LO5 Account for scrap materials, spoiled goods, and defective work.
Effective Cost Control

1. A specific assignment of duties and responsibilities.
2. A list of individuals who are authorized to approve expenditures.
3. An established plan of objectives and goals.
4. Regular reports showing the differences between goals and actual performance.
5. A plan or corrective action designed to prevent unfavorable differences from recurring.
6. Follow-up procedures for corrective measures.
Physical Control of Materials

- Limited access to materials storage areas.
- Segregation of duties.
- Accuracy in recording.
Controlling the Investment in Materials

- Maintaining the appropriate level of raw materials is one of the most important objectives of materials control.
- Inventory of sufficient size and diversity must be maintained.
- Management must determine other working capital needs in determining inventory levels.
- Adequate planning and control is required.
Order Point

- A minimum level of inventory should be determined for each type of raw material, and inventory records should indicate the cost and quantity of items on hand.
- **Order point** is the point at which an item should be ordered.
The following items need to be taken into consideration when ordering:

1. **Usage** – anticipated rate at which the material will be used.
2. **Lead time** – estimated time interval between the placement of an order and the receipt of the material ordered.
3. **Safety stock** – estimated minimum level of inventory needed to protect against stockouts.

\[(\text{Daily usage} \times \text{Lead time}) + \text{Safety stock} = \text{Order point}\]
Economic Order Quantity (EOQ)

- The optimal quantity to order at one time.
- Minimizes the total order and carrying costs over a period of time.
  - **Ordering costs** may include the salaries and wages of purchasing personnel, communication costs, and materials accounting and record keeping.
  - **Carrying costs** are the costs that a company may incur in storing materials. These costs may include materials storage and handling costs, interest, insurance, and property taxes, loss due to theft, deterioration, or obsolescence, and records and supplies associated with carrying inventory.
Calculating EOQ

- EOQ = Economic Order Quantity
- \( C \) = Cost of placing an order
- \( N \) = Number of units required annually
- \( K \) = Annual carrying cost per unit of inventory

\[
EOQ = \sqrt{\frac{2CN}{K}}
\]
Materials Control Procedures

- **Materials Control Personnel**
  - **Purchasing Agent** – employee who does the buying of raw materials.
  - **Receiving Clerk** – employee who is responsible for the receipt of incoming shipments.
  - **Storeroom Keeper** – employee who has charge of the materials after they have been received.
  - **Production Department Supervisor** – employee who is responsible for the operational functions within the department.
Control During Procurement

- When the order point is reached the procurement process begins.
- Supporting documents are essential to maintain control during the procurement process.
Documents Common to the Procurement Process

- **Purchase Requisition** – the form used to notify the purchasing agent that materials are needed.
- **Purchase Order** – the purchase requisition that gives the purchasing agent authority to order the materials.
- **Vendor’s Invoice** – the invoice from the vendor that should be compared to the purchase order.
- **Receiving Report** – the form that the receiving clerk uses to count and identify the materials received.
- **Debit-Credit Memorandum** – the document that is used when the shipment of materials does not match the order and/or the invoice.
Control During Storage and Issuance

- **Materials Requisition**
  - Prepared by the authorized factory personnel to withdraw materials from the storeroom.

- **Returned Materials Report**
  - Describes the materials being returned to the storeroom and the reason for the return.
Materials Accounting

- The materials accounting system must be integrated with the general ledger.
- Purchases are recorded as debits to materials in the general ledger.
- Materials account is supported by a subsidiary stores or materials ledger in which there is an individual account for each item.
Determining the Cost of Materials Issued

- In selecting the method to be used, the company should review their accounting policies and the federal and state tax regulations.

- The **flow of materials** does not dictate the **flow of costs**.
  - Flow of materials – the order that materials are issued for use in the factory.
  - Flow of costs – the order in which unit costs are assigned to materials.
Cost Flow Methods

- **First – In, First – Out Method (FIFO)**
  - Assumes that materials used in production are costed at the prices paid for the oldest materials and the ending inventory is costed at the prices paid for the most recent purchases.

- **Last – In, Last – Out Method (LIFO)**
  - Assumes that materials used in production are costed at the prices paid for the most recently purchased prices, and the ending inventory is costed at prices paid for the earliest purchases.
Cost Flow Methods (cont.)

- Moving Average Method
  - Material issued and the ending inventory are costed at the average price. This average unit price is computed every time a new lot of materials is received and it continues to be used until another lot is purchased.
Accounting Procedures

- The purpose of materials accounting is to provide a summary from the general ledger of the total cost of materials purchased and used in manufacturing.
- All materials issued during the month and materials returned to stock are recorded on a summary of materials issued and returned form.
Selected Materials Accounting Transactions

- **Materials purchased from vendor.**
  - Materials \( XX \)
  - Accounts Payable \( XX \)

- **Materials issued to production.**
  - Work in Process \( XX \)
  - Materials \( XX \)
Selected Accounting Transactions

- **Payment to vendor for invoice.**
  
  Accounts Payable XX  
  Cash XX

- **Transfer finished work to finished goods.**
  
  Finished Goods XX  
  Work in Process XX
Selected Sales-Related Accounting Transactions

- Sale of finished goods on account.
  - Accounts Receivable: XX
  - Sales: XX
  - Cost of Goods Sold: XX
  - Finished Goods Inventory: XX

- Collection of cash from customer.
  - Cash: XX
  - Accounts Receivable: XX
Just-In-Time (JIT) Materials Control

- Materials are delivered to a factory immediately prior to their use in production.
- Reduces inventory carrying costs.
- Reducing inventory levels through JIT may increase processing speed.
- **Backflush costing** is the accounting system used by JIT systems.
# Traditional and Backflush Accounting Systems

## Traditional System
- **Materials**
- **Accounts Payable**
- **Work in Process**
  - **Materials**
  - **Payroll**
- **Factory Overhead**
  - **Various Credits**
- **Work in Process**
  - **Factory Overhead**
- **Finished Goods**
  - **Work in Process**
- **Cost of Goods Sold**
  - **Finished Goods**

## Backflush System
- **Raw and In-Process**
- **Accounts Payable**
- **No entry**
- **Conversion Costs**
- **Payroll**
- **Conversion Costs**
  - **Various Credits**
- **No entry**
  - **Finished Goods**
  - **Conversion Costs**
  - **Raw and In-Process**
- **Cost of Goods Sold**
  - **Finished Goods**
Accounting for Scrap Work

- Scrap may be considered waste materials from the production process. These are materials that cannot be used in the production process.

- Journal entry if the value of scrap is relatively high:
  - Scrap Materials XX
  - Scrap Revenue XX
  - Cash XX
  - Scrap Materials XX

- Journal entry if the value of scrap is unknown:
  - Cash XX
  - Scrap Revenue XX
Spoiled and Defective Work

- **Spoiled work** has imperfections that cannot be economically corrected. The loss can be treated as part of the cost of the job or charge to Factory Overhead.

- **Defective work** has imperfections that are correctable. The extra costs are either charged to the job or Factory Overhead.