Chapter 5

Process Cost Accounting

General Procedures
Learning Objectives

LO1  Recognize the differences between job order and process cost accounting systems.

LO2  Compute unit costs in a process cost system.

LO3  Assign costs to inventories, using equivalent units of production with the average cost method.

LO4  Prepare a cost of production summary and journal entries for one department with no beginning inventory.
Learning Objectives

LO5 Prepare a cost of production summary and journal entries for one department with beginning inventory.

LO6 Prepare a cost of production summary and journal entries for multiple departments with no beginning inventory.
Learning Objectives

LO7 Prepare a cost of production summary and journal entries for multiple departments with beginning inventory.

LO8 Prepare a cost of production summary with a change in the prior department’s unit transfer cost.
Job Order vs. Process Costing

- **Job order cost system** is appropriate when products are manufactured on a special order basis.
- **Process cost system** is appropriate when similar goods are manufactured in a continuous or mass production operation.
Materials and Labor Costs

- The focus of a process system is the factory cost center.
- In a process cost system, the costs of materials and labor are charged directly to the department where they are incurred.
- Indirect materials that cannot be directly associated with a particular department are charged to factory overhead.
Factory Overhead Costs

- Overhead costs are accumulated from the various journals in the same manner as in a job order cost system.
- The applicable factory overhead from a service department is distributed to the production departments.
- The use of predetermined rates is common in a process cost system, but overhead is applied to departments rather than to jobs.
Product Costs in a Process Cost System

- The total cost of each item produced is the combined unit costs from the individual departments.

- Costs are recorded by department according to the following procedures:
  - Service department costs are allocated to the production departments.
  - Costs from prior departments are carried over to successive departments.
  - Costs of materials and labor directly identifiable with a department, as well as applied overhead, are charged to that department.
The primary problem in inventory costing is the allocation of total costs between units finished during the period and units still in process at the end of the period.

The calculation of the degree of completion of unfinished work in process presents one of the most important and difficult challenges in process costing.
Work in Process Inventories - Stages of Completion

1. Units started in a prior period and completed during the current period.
2. Units started and finished during the current period.
3. Units started during the current period but not finished by the end of the period.
Allocating Total Cost

- Total cost must be allocated between:
  - Units finished during the period
  - Units still in process at the end of the period

- Procedures for assigning costs to inventories:
  - Average cost method
  - First-in, first-out (FIFO) method
Information Needed for Inventory Valuation

- Accumulate costs for which the department is accountable.
- Calculate the equivalent production for the period.
- Compute the unit cost for the period.
- Summarize the disposition of the production costs.
At the end of the period, the department manager submits a report showing the following:

1. Number of units in the beginning work in process.
2. Number of units completed.
3. Number of units in the work in process and their estimated stage of completion.
Cost of Production Summary - One Department

- The reporting of production and related costs in each department involves the following:

1. Accumulating costs for which the department is accountable.
2. Calculating equivalent production for the period.
3. Computing the unit cost for the period.
4. Summarizing the disposition of the production costs.
Journal Entries for One Department

- **Recording Factory Operations**
  - Work in Process
    - Materials
  - Work in Process
    - Payroll
  - Work in Process
    - Factory Overhead
  - Factory Overhead
    - Various Accounts

- **Recording Cost of Goods Completed**
  - Finished Goods
    - Work in Process
Cost of Production Summary - Multiple Departments

- When there is more than one department, it is necessary to keep separate control accounts in the general ledger for recording the costs of operating each department.

- A cost of production summary must be prepared for each department along with separate journal entries to record the operations of each department and the transfer of costs.
Cost of Production Summary - Multiple Departments (cont.)

- Costs accumulated in each department are transferred to the next department in the production cycle.
- The transferred units and their related costs are treated as completed units in the one department and as raw materials in the next department.
The transferred-in costs and units from the prior department are not included in the calculation of unit cost and equivalent units on the next department’s cost of production summary.

If there is still another department, the first department’s costs must be considered in transferring cost to the next department.

The first department’s costs are also considered in the costing of the ending work in process inventory in the second department.
Journal Entries for Multiple Departments

- **Record Direct Materials**
  - Work in Process – Blanking
  - Work in Process – Forming
  - Work in Process – Finishing
  - Factory Overhead
    - Materials

- **Record Direct Labor**
  - Work in Process – Blanking
  - Work in Process – Forming
  - Work in Process – Finishing
  - Factory Overhead
    - Payroll

- **Record Factory Overhead**
  - Work in Process – Blanking
  - Work in Process – Forming
  - Work in Process – Finishing
    - Factory Overhead – Blanking
    - Factory Overhead – Forming
    - Factory Overhead – Finishing

- **Factory Overhead**
  - Various Accounts
  - Factory Overhead – Blanking
  - Factory Overhead – Forming
  - Factory Overhead – Finishing

- **Transfers to Various Departments**
  - Work in Process – Forming
    - Work in Process – Blanking
    - Work in Process – Finishing
    - Work in Process – Forming
  - Finished Goods
    - Work in Process – Finishing

- **BLANKING ⇒ FORMING ⇒ FINISHING**
- Department Department Department
Finished Goods Not Transferred

- Finished goods in a department may not be transferred until the following period.
- These units should be treated as completed and priced out at the full unit price.
- Their costs should be left in the work in process account for financial statement purposes.
Change in Prior Department’s Unit Transfer Costs

- A prior department’s transfers from two different periods will often have different unit costs each month.
- The previous department costs must be averaged as a separate grouping so that these transferred-in costs can be properly allocated to the products being produced in the department.