CHAPTER 1

Intro to Management Accounting

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BUSI 1005 - Management Accounting

Chapter 1 – Introduction to Management Accounting

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Management vs. Financial Accounting

- internal focus: provision of accounting information to management
- level of detail is much higher
- no fixed set of rules
- leading indicators vs. lagging indicators of performance
- includes non-financial information
- focus on decision making and control

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What is Management Accounting all about?

- cost systems:
  - how much does it cost to provide a certain service, to manufacture a given product?
    - e.g. how much does it cost to run this course?
- decision making:
  - how do we evaluate managers so that they work in the best interests of the firm?
  - how do we decide if we should accept a price cut?
  - how do we decide if we should outsource a product?

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What is Management Accounting all about? (cont'd)

- planning and control decisions -
  - planning decisions - what tasks should be performed and how to complete them
  - control decisions - how to manage, motivate and monitor individuals
    - encompasses the choice of performance measures and reward system

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Theoretical Framework for Decision Making and Control

1. Objectives: what are the objectives that the organization is pursuing and how does the organization measure how well these objectives are achieved?

2. Strategies and plans: what strategies has the organization developed to meet its objectives and what activities have been put in place to meet these strategies? How does the organization measure the performance of these activities?

Theoretical Framework - cont'd

3. Targets: for each of the measures above, what level of performance does the organization report?

4. Rewards: how does the compensation system tie into the measures of performance?

5. Feedback: how does the organization ensure that feedback is provided on its performance on the measures in order to enable the organization to learn?

How is this Course Structured?

Cost Systems: Cost Terminology, Job Order Costing Systems, Activity Based Costing Systems (ch 2, 3, 4)

Decision Making: CVP Analysis, Direct Costing, Relevant Costs, Capital Budgeting (ch 5, 6, 7, 12)

Control: Budgeting, Standard Cost Systems, Responsibility Accounting, Transfer Pricing (ch 8, 9, 10, 11)

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CHAPTER 2
Cost Concepts and Cost Estimation

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Chapter 2 – Cost Concepts and Cost Estimation

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Manufacturing vs. Merchandising Income Statements

Opening inventory	$120,000
Purchases	790,000
Less ending inventory	(160,000)
Cost of goods sold	$750,000

Opening ***finished goods*** inventory	$450,000
Cost of goods manufactured	1,400,000
Less ending ***finished goods*** inventory	(580,000)
Cost of goods sold	$1,270,000

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Cost Classifications

- cost object: a product, contract, or organizational segment for which costs are determined
- product vs. period costs
  - product: manufacturing costs consisting of direct labour, direct materials and overhead; inventoriable costs
  - period costs: non-manufacturing costs (selling, general and administrative costs) that are expensed in the accounting period

Product Costs

- direct materials: those materials that become an integral part of a finished product and that can be conveniently traced to it
- direct labour: those factory labour costs that can be physically traced to the creation of products in a hands-on sense
- manufacturing overhead: all other manufacturing costs

prime costs = direct labour + direct materials
conversion costs = direct labour + overhead

Manufacturing Overhead

- defined as costs that are indirectly associated with manufacturing the product….including….
  - indirect materials - raw materials that do not physically become part of the finished product or represent too small a part of the finished product in terms of cost
  - indirect labour - work of factory workers that have no physical association with the finished product or for which it is impractical to trace to the goods produced

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Types of Inventories

- manufacturing company:
  - direct materials inventory
  - work-in-process inventory
  - finished goods inventory
- merchandising company:
  - finished goods inventory

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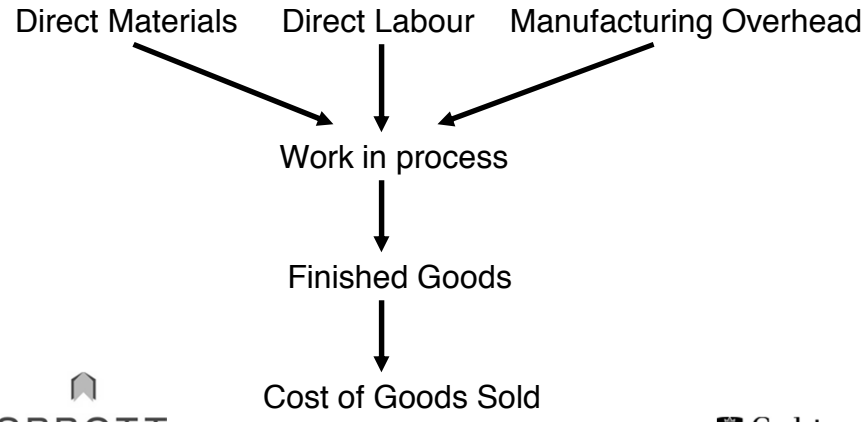
Cost Flows



Schedule of Cost of Goods Manufactured

Direct Materials Used	
Raw Materials, Opening Inventory	XXX
Purchases of Raw Materials	XXX
Raw Materials, Ending Inventory	-XXX
Raw Materials Inventory used	XXX
Less indirect materials issued to production	-XXX
	XXX
Direct labour	XXX
Manufacturing overhead	XXX
Total Manufacturing Costs	XXX
Work-in-Process, beginning	XXX
Work-in-Process, ending	-XXX
Cost of goods manufactured	XXX

Manufacturing Company Statement of Income - Traditional Format

Sales		xxx
Cost of goods sold		
Finished goods inventory, beginning	xxx	
Cost of Goods Manufactured	xxx	
Finished goods inventory, ending	xxx	xxx
Gross margin		xxx
Operating expenses		xxx
Operating income		xxx

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Variable vs. Fixed Costs

- variable vs. fixed costs
  - variable cost: varies in total in direct proportion to changes in volume
  - fixed costs: remains constant in total regardless of the volume of activity
- mixed costs: contain elements of both variable and fixed costs
- relevant range: that range of activity within which assumptions relative to variable and fixed cost behaviour are valid

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Variable vs. Fixed Costs

	Total Costs	*Unit Costs*
Variable Costs	Varies in direct proportion to changes in activity.	Constant throughout relevant range.
Fixed Costs	Constant throughout relevant range.	Varies with changes in activity.

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Fixed and Variable Costs Exercise

A company incurs the following total costs at a volume of 700 units:

Variable	$56,000
Fixed	28,000

Calculate (1) the total costs and (2) the cost per unit at the following volume levels:

600 Units 700 Units 800 Units

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Cost Classification Exercise

Classify each of the following as product/period, direct/indirect, variable/fixed (cost object = car; 2 cars; 2 assembly lines)

1. Cost of tires
2. Insurance on manufacturing equipment
3. Cost of steel used to make body
4. Quality inspection
5. Wages of materials-handling workers
6. Depreciation on factory building
7. Salary of CEO

Cost Classification Exercise - cont'd

8. Wages of assembly line workers
9. Salaries of plant security personnel
10. Overtime premiums paid to assembly line workers
11. Cost of electric power to operate assembly line machinery
12. Glue used in production
13. Salary of engineers who design changes on cars
14. Idle time of assembly line workers
15. Wages paid to temporary assembly line workers
16. Annual fire insurance policy on plant

Cost Classification Exercise

	Product /Period	*Direct /Indirect*	*Variable /Fixed*
1. Cost of tires			
2. Insurance on manufacturing equipment			
3. Cost of steel used to make body			
4. Quality inspection			
5. Wages of materials-handling workers			
6. Depreciation on factory building			
7. Salary of CEO			
8. Wages of assembly line workers			
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11. Cost of electric power to operate assembly line machinery			
12. Glue used in production			
13. Salary of engineers who design changes on cars			
14. Idle time of assembly line workers			
15. Wages paid to temporary assembly line workers			
16. Annual fire insurance policy on plant			

Other Cost Classifications

- direct costs – costs that can be easily and conveniently traced to a cost object
- indirect costs – costs that must be allocated in order to be assigned to a cost object
- controllable cost – a cost that can be significantly influenced by a manager
- opportunity cost – the potential benefit that is given up when one alternative is selected over another

Other Cost Classifications – cont'd

- sunk costs – all costs incurred in the past that cannot be changed by any decision made now or in the future; should not be considered in decisions
- differential (relevant) costs – costs that differ between alternatives
- marginal costs - the additional cost incurred to produce one additional unit
- average cost – the total cost to produce a quantity divided by the quantity produced

Measuring Cost Behaviour

- high-low method: makes use of the costs and activity levels for the high and low activity levels in a set of data
  - variable cost = Δ in cost / Δ in activity level between the highest and lowest points of activity
  - relies only on two data points (which may be the extremes of the relevant range)
- regression analysis (least squares): most reliable, as it uses all data points in calculating the best fitting line

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Cost Estimation - Example

Month	MH	Material $	Overhead $
1	175	$4,750	$4,500
2	170	4,600	4,225
3	160	4,200	3,780
4	190	5,900	5,250
5	175	4,600	4,800
6	200	5,250	5,100
7	160	4,350	4,450
8	150	4,350	4,200
9	210	6,000	5,475
10	180	4,950	4,760
11	170	4,450	4,325
12	145	3,800	3,975

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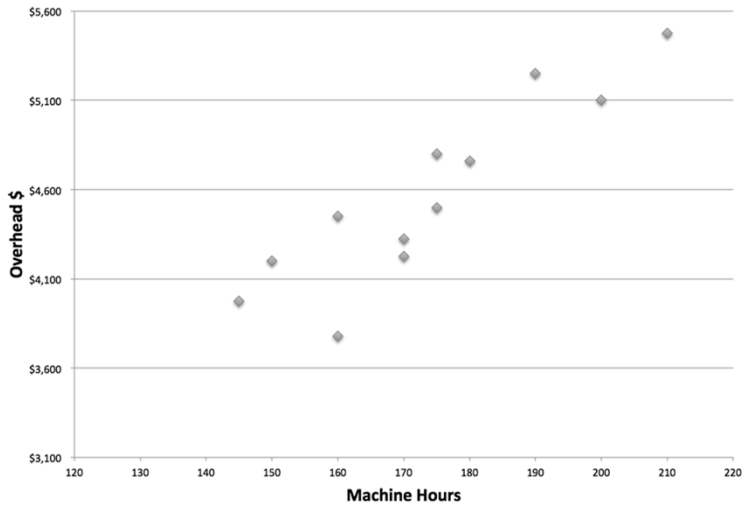

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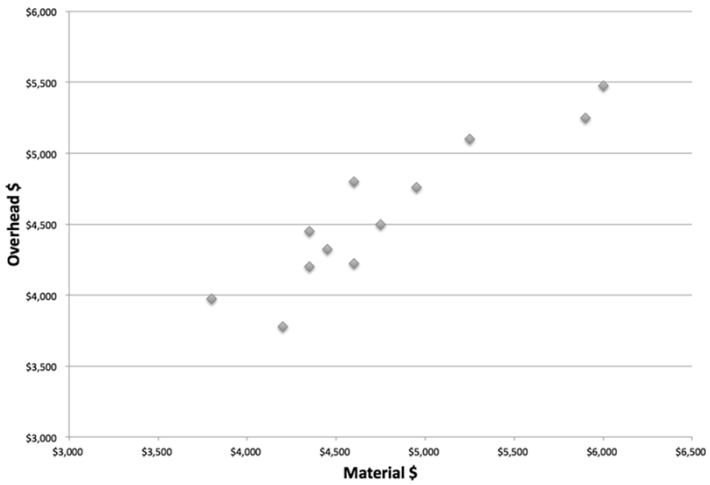

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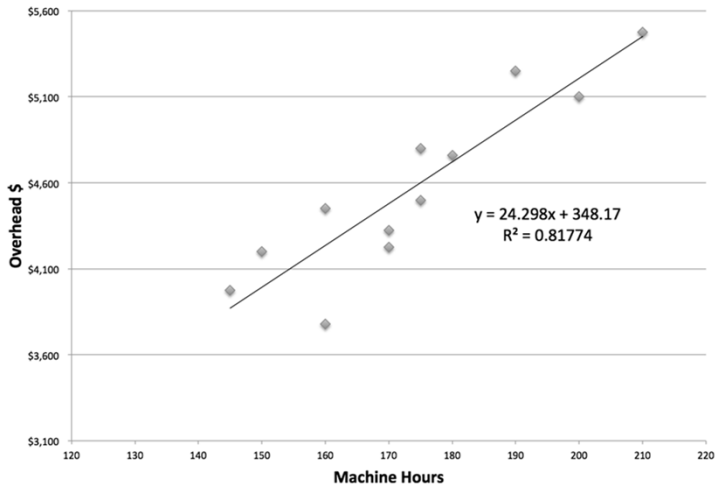

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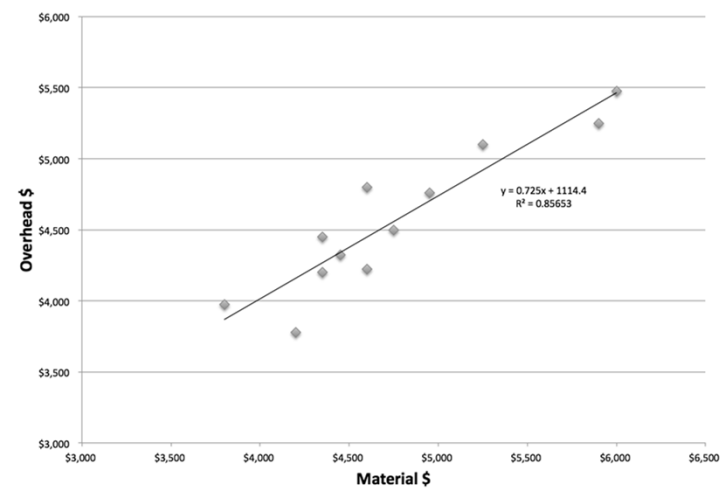

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Problem 2-1 – Schedule of COGM and Income Statement
(Taken up via video on cuLearn)

The following information appears in Marshall Inc.'s records for the year ended December 31, 20x6:

Sales revenue	$131,150
Work in process, January 1	7,700
Work in process, December 31	6,210
Raw materials inventory, January 1	8,600
Raw materials inventory, December 31	8,050
Finished goods inventory, January 1	3,550
Finished goods inventory, December 31	4,950
Raw materials transportation-in	1,150
Raw materials purchased	12,710
Direct labour	19,350
Supervisory and indirect labour-plant	10,950
Administrative salaries	18,000
Indirect materials used	1,450
Heat, light, and power (80% for plant)	12,500
Depreciation (85% for plant)	15,000
Property taxes (75% for plant)	4,200
Other administrative costs	4,350
Marketing costs	16,350

Prepare an income statement with a supporting cost of goods manufactured schedule.

Problem 2-2 – Schedule of COGM and Income Statement

The following information appears in Tots' Toy Factory records for the year ended December 31, 20x6:

Administrative expense	$21,550
Manufacturing building depreciation	12,500
Indirect materials and supplies	2,150
Sales commissions	7,100
Direct materials inventory, January 1	8,200
Direct labor	16,300
Direct materials inventory, December 31	9,000
Finished goods inventory, January 1	4,450
Finished goods inventory, December 31	4,050
Direct materials purchases	10,150
Work in process inventory, December 31	5,550
Supervisory and indirect labor	6,200
Property taxes, manufacturing plant	3,700
Plant utilities and power	10,750
Work in process inventory, January 1	6,600
Sales revenue	97,200

Prepare an income statement with a supporting cost of goods sold statement.

Problem 2-3 – Cost Estimation

The following selected data were taken from the accounting records of Vojo Company. The company uses direct-labour hours as its cost driver for overhead costs.

Month	***Direct-Labour Hours***	***Manufacturing Overhead****
January	26,000	$749,250
February	25,000	$720,000
March	28,000	$772,500
April	23,000	$681,000
May	30,000	$775,500
June	34,000	$879,000

June's cost of $879,000 consisted of machine supplies ($153,000), depreciation ($22,500), and plant maintenance ($703,500). These costs exhibit the following respective behavior: variable, fixed, and semivariable (mixed).

*The manufacturing overhead figures presented in the preceding table do **not** include supervisory labour cost, which is step-fixed in nature. For volume levels of less than 15,000 hours, supervisory labour amounts to $67,500. The cost is $135,000 from 15,000-29,999 hours and $202,500 when activity reaches 30,000 hours or more.

Required:

1. Determine the machine supplies cost and depreciation for April.
2. Using the high-low method, analyze Vojo Company's plant maintenance cost and calculate the monthly fixed portion and the variable cost per direct-labour hour.
3. Assume that present cost behavior patterns continue into the latter half of the year. Estimate the total amount of manufacturing overhead the company can expect in October if 29,500 direct-labour hours are worked.

BUSI 1005 – Management Accounting
Suggested Problems with Solutions
Chapter 2 – Cost Concepts and Cost Estimation

At the end of every chapter, I will provide you with a recommend list of problems for you to tackle on your own. The solutions to these are in the textbook at the end of the problems section. I break out the recommended problems into two lists: the primary list is the list of problems I recommend all students attempt. The secondary list is a list of problems that should be attempted only if you are having difficulty absorbing the course materials.

In Chapter 2, there are 8 problems on pages 18 - 23. Solutions to these problems are on pages 24 – 31.

Recall that the problems with a 💻 icon are taken up in a video.

Exercise / Problem	Primary List	Secondary List
All Exercises*	√	
2-1		√
2-2	√	
2-3		√
2-4		√
2-5 💻	√	
2-6		√
2-7 💻	√	
2-8 💻	√	

* exercises and solutions to exercises are in a pdf file on cuLearn

CHAPTER 3

Job Order Costing

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Chapter 3 – Job Order Costing

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Job Order vs. Process Costing

- job order costing is used by companies making products according to user specifications, every product/service is different from the other, i.e. a commercial construction company
- process costing is used by entities where production is a continuous flow and every product is identical, i.e. an oil refinery

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Job Order Costing System

- costs are accumulated individually by job:
  - costs of different jobs are maintained in separate subsidiary ledger accounts
  - direct materials, direct labour, and overhead are accumulated for each job.
  - the normal costing method of valuation is used since actual direct material and direct labor costs are fairly easy to track and are charged directly to each job
  - overhead is applied to jobs based on a budgeted rate

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Job Order Costing - Materials

- direct and indirect materials -
  - all materials purchased are recorded to Raw Materials Inventory:
    Dr. Raw Materials Inventory
    Cr. Accounts Payable
  - when direct materials are released to work-in-process:
    Dr. WIP
    Cr. Raw Materials Inventory
  - when indirect materials are released to work-in-process:
    Dr. Manufacturing Overhead
    Cr. Raw Materials Inventory

Job Order Costing - Labour

- direct labour - direct labour is accumulated on time sheets or similar system and allocated to each individual job:

  Dr. WIP

  Cr. Wages Payable, Cash…

- indirect labour is charged to manufacturing overhead:

  Dr. Manufacturing Overhead

  Cr. Wages Payable, Cash…

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Job Order Costing – Manufacturing Overhead

- actual manufacturing overhead costs incurred are recorded as follows:

  Dr. Manufacturing Overhead

  Cr. Various Accounts

- applied overhead is charged to WIP using predetermined (budgeted) overhead rates

  Dr. WIP

  Cr. Manufacturing Overhead

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The Predetermined Overhead Rate

- POR = Budgeted Overhead ÷ Expected Input Volume
- the input measure selected has to be common to all products manufactured and should have the greatest association or causality with overhead
- most common input volume measures:
  - direct labour hours
  - direct labour cost
  - machine hours

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Overhead Application

- overhead is applied using the predetermined rate times the actual level of activity:

Manufacturing Overhead	
Actual Manufacturing Overhead Costs Incurred	Overhead Applied

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Overhead Application - cont'd

- underapplied overhead: overhead applied < actual overhead
- overapplied overhead: overhead applied > actual overhead
- the amount of under/over applied overhead is usually disposed of at year end
  - it can be closed to COGS,
    - this approach is a requirement for all publicly accountable companies
  - it can be carried forward to next year, or
  - it can be allocated to the accounts containing applied overhead: WIP, finished goods inventory and COGS

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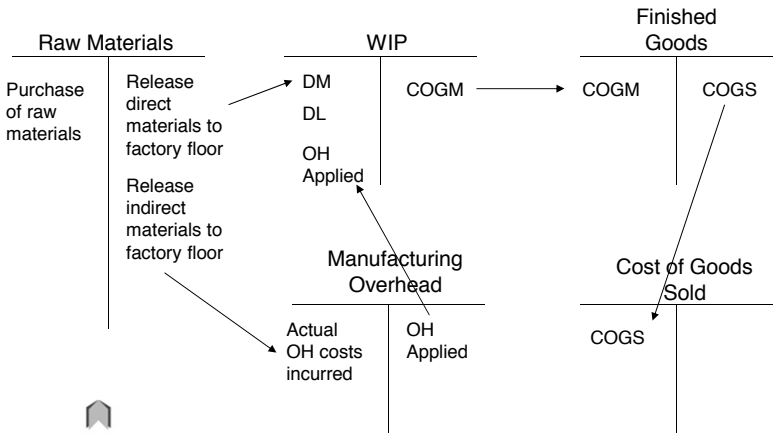
Job Order Costing - Cost Flows



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Problem 3-1 – Job Order Costing Journal Entries
(Taken Up via Video on cuLearn)

Prepare journal entries to record the following transactions:

(a) Purchased $40,000 of raw materials on account
(b) Issued $25,000 of direct materials to jobs
(c) Incurred direct labour costs of $50,000
(d) Paid $53,000 cash for factory utilities
(e) Incurred indirect labour costs of $18,000
(f) Issued $3,000 of indirect materials to the factory floor
(g) Applied overhead on the basis of 125% of direct labour cost
(h) Incurred depreciation charges on factory machinery of $10,000
(i) The cost of jobs completed was $60,000
(j) The cost of jobs sold was $56,000

Problem 3-2 – Job Order Costing

The McLaren Company has two jobs in work-in-process at the beginning of the January:

	Total Cost
Job 1006	$18,200
Job 1007	13,500

During January, three additional jobs were started: Jobs 1008, 1009 and 1010. During the month, jobs 1006, 1007 and 1008 were completed and Jobs 1006 and 1007 were sold. There were no finished goods inventory at the beginning of the month.

The following transactions took place during the month:

a. Direct materials used and direct labour hours incurred in January by each job were as follows:

	1006	*1007*	*1008*	*1009*	*1010*
Direct materials used	$1,200	$2,250	$4,600	$5,700	$1,200
Direct labour hours	20	35	86	140	25

b. The company applies overhead on the basis of direct labour hours. At the beginning of the year, it was estimated that the total overhead costs for the year would be $75,000 and that total direct labour hours incurred would be 3,000.

c. The direct labour rate is $30 per hour.

d. Raw materials inventory at the beginning of January was $5,000, purchases of raw materials during January amounted to $16,300.

e. The following overhead costs were incurred during the month:

Indirect materials used	$ 350
Indirect labour	1,600
Utilities	1,200
Depreciation	2,100
Other	500
	$5,750

Required –

1. Prepare all journal entries for the month of January.
2. Post the journal entries to the WIP Account and show that the ending balance in the ending WIP account corresponds to the cost of the remaining jobs.

Problem 3-3 – Job Order Costing

Jessica Company started operations on January 2, 20x6. The company manufactures custom products and uses a job order system. Overhead is allocated to jobs based on direct labour costs. The budgeted manufacturing overhead for 20x6 was $396,900 and the direct labour costs were budgeted at $567,000. At the end of 20x6, there were two jobs in work in process:

	Job A605	*Job A608*
Direct material cost	$20,000	$36,000
Direct labour cost	12,000	38,000

Actual manufacturing overhead for the year amounted to $350,000 and total direct labour charges for the year amounted to $550,000. The year-end finished good inventory balance was $175,000 and included direct labour costs of $48,000. Cost of goods sold for the year amounted to $1,750,000.

Required -

1. Prepare a schedule showing the detailed cost of the ending work-in-process, and finished goods inventory.
2. Compute the over/under –applied overhead for the year.
3. How would you dispose of the balance in the manufacturing overhead account?

BUSI 1005 – Management Accounting
Suggested Problems with Solutions
Chapter 3 – Job Order Costing

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3-5		√
3-6	√	
3-7 💻	√	
3-8 💻	√	
3-9		√

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