BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY
School of Business
Program: Financial Management
Option: Accounting
Taught to:

Course Outline for:
FMGT 3210
Cost & Managerial Accounting 1
Date: September, 2000

Hours/Week:	4	**Total Hours:**	60	**Term/Level:**	3
Lecture:	2	**Total Weeks:**	15	**Credits:**	4
Seminar:	1				
Lab:	1				

Instructor: R.C. (Bob) Nichols

	Office No:	SE6-337	Phone:	(604) 451-6760
Home Phone: 987-1423	E-mail:	rnichols@bcit.bc.ca	Fax:	(604) 987-1340

Prerequisites

Course No. FMGT 2105 OR EQUIVALENT
Course Name: Accounting 2 (or equivalent)

Course Description and Goals

This course emphasizes the role of the management accountant, cost concepts and terminology, CVP analysis, job costing, budgeting and control, standard costs and variance analysis and variable costing.

Evaluation

Assignments	10	%
Quizzes	10	%
Midterm Test	35	%
Final Examination	45	%
Total Term	100	%

Course Learning Outcomes:

At the end of this course, the student will be able to:

1. Identify the roles of the management accountant in the organization's planning and control functions.
2. Prepare financial statements for a manufacturing organization.
3. Define and differentiate between a variety of terms used in cost and managerial accounting.
4. Distinguish between job-order, process costing and activity based costing systems with regard to the methods of accumulating costs.
5. Develop predetermined manufacturing overhead rates for application to jobs.
6. Illustrate the flow of costs through a job cost system.
7. Determine and implement alternative methods of dealing with under-or over-applied overhead.
8. Analyze the effects of changes in prices, volumes, and cost structures on organizational profitability and do sensitivity analysis of these relationships.
9. Complete all the budgets and supporting schedules required in the preparation of a master budget.
10. Apply the concepts of responsibility accounting to management evaluation and control.
11. Prepare performance reports incorporating flexible budgets.
12. Develop standard costs for direct materials, direct labor, variable and fixed overhead and compute the appropriate variances.
13. Evaluate and implement the decision of whether or not to investigate a variance.
14. Evaluate the effects of alternative methods of inventory-costing.
15. Evaluate the effects of alternative denominator activity levels in absorption costing.
16. Describe and implement alternative methods of disposing of variances at year end.

Text(s) and Equipment

Required: a) <u>Cost Accounting – A Managerial Emphasis</u>, by C.T. Horngren, G. Foster, S.M. Datar, & H. Teall, Prentice Hall, 2nd Canadian Edition

b) 3 or 4 column accounting paper and dark pencils, ruler, and calculator

Reference or Recommended:

Workbook of study guides with solutions for the above text. This provides questions and solutions, which will enable the student to immediately test his/her understanding of the basics.

It is available on the web at www.prenticehall.ca/horngren

Course Notes (Policies and Procedures)

1. **ALL OUTLINES, SCHEDULES AND MARK ALLOCATIONS ARE SUBJECT TO CHANGE IF THE INSTRUCTOR DETERMINES THAT CHANGE IS REQUIRED.**
2. **This course Outline may assist you in the future to receive credit for all or part of a course from another post-secondary institution or from a professional program. It is strongly recommended that you keep this course Outline in a safe place for future reference.**
3. **CHEATING, PLAGIARISM AND DISHONESTY: "Acts of cheating, plagiarism and dishonesty are not tolerated; the degree of punitive action may range from a written warning to withdrawal from the program. These penalties may also be applied to students who knowingly contribute to the act of dishonesty, cheating and plagiarism." (Refer to the current BCIT Calendar.)**
4. **Programmable calculators will not be allowed in exams.**

Assignment Details

Note:

1. **Assignments are due by noon on the due date. Late assignments will not be accepted for credit unless accompanied by a valid doctor's certificate, or <u>prior</u> arrangements have been made with the instructor.**
2. **Assignments must be completed on the computer and submitted as a hard copy (computer printout).**
3. **The assignments should be submitted in an appropriate format. Marks will be deducted for messy work, poor spelling and/or grammar.**
4. **Any copied assignments will result in a "0" grade for all papers involved and possible additional penalties to any students involved.**
5. **Students who wish to master Accounting are encouraged to complete additional problems. These can be submitted to the instructor for review.**
6. **Students are expected to bring their textbooks to class.**

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Option: Accounting

Schedule for:
FGMT 3210
Cost & Managerial Accounting 1

* This schedule is subject to change at the discretion of the instructor.

Date:	Topics Covered:	Readings:
Sept. 6	Introduction to program and this course	Ch. 1
Sept. 11	An introduction to cost terms and purposes	Ch. 2
Sept. 13	An introduction to cost terms and purposes	Ch. 2
Sept. 18	Cost-Volume- Profit relationships	Ch. 3
Sept. 20	Shinerama Day, no classes	
Sept. 25	Cost-Volume-Profit relationships	Ch. 3
Sept. 27	Job Costing	Ch. 4
Oct. 2	Job Costing	Ch. 4
Oct. 4	Activity-Based Costing & Activity Based Management	Ch. 5
Oct. 9	Thanksgiving Day – no classes	
Oct. 11	Review for mid-term examination (chapters 1 to 4)	
Oct. 16 - 20	Mid-term Examination week, no classes	
Oct. 23	Activity-Based Costing & Activity Based Management	Ch. 5
Oct. 25	Master Budget and Responsibility Accounting	Ch. 6
Oct. 30	Master Budget and Responsibility Accounting	Ch. 6
Nov. 1	Flexible budgets, variances and management control: Part 1	Ch. 7
Nov. 6	Flexible budgets, variances and management control: Part 1	Ch. 7

Date:	Topics Covered:	Readings:
Nov. 8	Flexible budgets, variances and management control: Part II	Ch. 8
Nov. 13	Remembrance Day Holiday – no classes	
Nov. 15	Flexible budgets, variances and management control: Part II	Ch. 8
Nov. 20	Income effects of alternative inventory-costing methods	Ch. 9
Nov. 22	Income effects of alternative inventory-costing methods	Ch. 9
Nov. 27	Review	
Nov. 29	Review	
Dec. 3	Examinations start – no classes	
Dec. 6 - 10	Final exam week - No classes	

Course Record

Developed by:	R.C. (Bob) Nichols Instructor	Date:	December, 1996
Revised by:	R.C. (Bob) Nichols Instructor	Date:	August, 2000
Approved by:	~~R. Dolan~~ Allan D Cobbett Associate Dean	Date:	August, ~~1999~~ 2000

ASSIGNMENT SCHEDULE:

DUE DATE:	**ASSIGNMENT PROBLEMS:**
September 11	1-20, 1-25 (this assignment does **not** have to done on the computer)
September 18	2-31, 2-32
September 25	2-36, 2-37, 3-20
October 2	3-36, 3-39, 3-41
October 10	4-31, 4-33, 4-36
October 16 - 20	**Mid-term Examination Week - No Assignment**
October 23	5-27 (omit the diagram in part 1 of 5-27)
October 30	5-34, 5-36, 5-37
November 6	6-31, 6-34, 6-35
November 14	7-33, 7-34, 7-37
November 20	8-30, 8-36, 8-38
November 27	9-27, 9-31, 9-33
December 6 - 10	**Final examination week**

I.D. Required in Examination Centres

Effective December 2000, in order to write exams, students will be required to produce photo-identification at examination centres. Photo I.D. must be placed on the desk before an exam will be issued to the student. The I.D. must remain in view on the desk while writing the exam, for inspection by invigilators. Students should bring a BCIT OneCard or alternatively two pieces of identification, one of which must be government photo I.D. such as a drivers license. Please see BCIT Policy #5300, Formal Invigilation Procedures.

FMGT 3210 SEMINAR SCHEDULE FOR FALL 2000:

WEEK OF:	SEMINAR COVERAGE:
Sept 6 – 8	Work on 1st assignment
Sept. 11 – 15	Handout problem #1 (Ch. 2) and problem 2-28
Sept, 18 – 22	Problem 3-34 and Quiz #1 (Ch. 2)
Sept. 25 – 29	Handout problem #2 (Ch. 3) and #3 (Ch. 3)
Oct. 2 – 6	Problem 4-21 and Quiz #2 (Ch. 3)
Oct. 10 – 13	Handout problem #4 (Ch. 4) and #5 (Ch. 4) and review for mid-term examination
Oct. 16 – 20	Mid-term examination week – no classes
Oct. 23 – 27	Handout problems #6 (Ch. 5)
Oct. 30 – Nov. 3	Handout problem #7 (Ch. 6) and Quiz #3 (Ch. 5)
Nov. 6 – 10	Handout problems #8 (Ch. 7) and #9 (Ch. 7 & 8)
Nov. 13 – 17	Problem 9-23 and Quiz #4 (Ch. 6)
Nov. 20 – 24	Handout problem #10 (Ch. 9) and Quiz #5 (Ch. 7)
Nov. 27 – Dec. 1	Review for final examination

HANDOUT PROBLEM #1

The Dempsey Company had the following amounts for the month ended October 31, 1999:
(in ,000's)
Inventories:

Direct Materials (Oct. 1)	$ 60
Work-in-process (Oct. 1)	$ 260
Finished Goods (Oct. 1)	$ 120
Direct Materials (Oct. 31)	$ 70
Work-in-process (Oct. 31)	$ 240
Finished Goods (Oct. 31)	$ 40
Factory Supervision	$ 110
Administrative Salaries	$ 160
Direct Manufacturing Labor	**?**
Prepaid Insurance on factory	$ 90
Insurance Expense - Factory	$ 30
Indirect Materials	$ 80
Direct Material Purchases	$ 310
Sales (net)	$ 2,000
Sales Commissions	$ 100
Amortization Expense - Factory	$ 70
Accounts Payable	$ 65
Supplies Expense - Factory	$ 20
Sales Salaries	$ 250
Cost of Goods Manufactured - Oct.	$ 730

REQUIRED: (show all calculations for part marks) -- a heading is not required

Prepare a **Statement of Cost of Goods Manufactured and Sold** (in proper format) **including the missing Direct Manufacturing Labor costs** for the month ended October 31, 1999:

HANDOUT PROBLEM #2

The Moore Company had the following revenues and costs per unit based on the **production and sale of 30,000 units:**

Selling Price	\$ 75 per unit
Direct Materials	\$ 15 per unit
Direct Labor	\$ 25 per unit
Variable manufacturing Overhead	\$ 9 per unit
Fixed Manufacturing Overhead	\$ 8 per unit
Sales Commissions	\$ 5 per unit
Sales Salaries	\$ 4 per unit
Administrative Salaries	\$ 11 per unit

Their present plant capacity is 50,000 units per year which can be increased in increments of 10,000 units at a cost of \$ 50,000 per increment.

1) How many units would the company have to produce and sell if they desired net income after taxes of \$ 220,000 and taxes are equal to 45%?

2) How much could the company spend on advertising next year if it was expected to increase sales to 62,000 units and the company desires net income after taxes (45%) of \$ 275,000 but expects inflation to affect all revenues and variable costs by 5%?

HANDOUT PROBLEM #3

The Tyson Company produces and sells three products with the following results for 1999:

	Jabs	Hooks	TKOs
Sales in units.......................	10,000 units	20,000 units	15,000 units
Sales Revenues..................	$ 80,000	$ 160,000	$ 165,000
Cost of Goods Sold:			
Direct Materials................	20,000	50,000	45,000
Direct Labor.....................	10,000	20,000	30,000
Variable Manufact. Overhead..	5,000	40,000	15,000
Fixed Manufact. Overhead..	15,000	15,000	15,000
Total Cost of Goods Sold..	50,000	125,000	105,000
Gross Profit Margin..............	30,000	35,000	60,000
Selling & Administrative:			
Sales Commissions.............	10,000	20,000	15,000
Administrative Salaries........	20,000	20,000	20,000
Operating Income (Loss)......	$ 0	$ (5,000)	$ 25,000

REQUIRED:

How many units of each product would the company have to produce and sell if they expected the **Sales Mix to change to 3:2:4** and the company desired net income after taxes of $ 48,000 (taxes = 40%)?

HANDOUT PROBLEM #4

The Couloir Extreme Company use a **normal job order costing** system in accounting for its production, with **manufacturing overhead being allocated in relationship to direct labor costs**. The company had the following estimates as of January 1, 1999:

Estimated Sales for the year	$800,000
Estimated Direct Materials for the year	$300,000
Estimated Direct Labor costs for the year	$120,000
Estimated Manufacturing Overhead for the year .	$ 84,000

The company had the following account balances and incurred the following costs during 1999:

1)

Inventories:	January 1, 1996:	December 31, 1999:
Direct Materials	$30,000	$42,000
Work-in-process	$28,000	**?**
Finished Goods	$60,000	$45,000

2) Direct Materials Purchased in the year = $340,000

3) Actual Manufacturing overhead costs were $90,000 and the manufacturing overhead was **$8,000 over-applied** during the year.

4) The Work-in-process inventory on December 31, 1999 consisted of 5 units with total direct material costs of $6,000 and total direct labor costs of $10,000

REQUIRED: SHOW ALL CALCULATIONS FOR PART MARKS!!

1. Calculate each of the following:
   a) Direct Material used during 1999:

   b) Direct Labor costs incurred during 1999:

   c) Work-in-process Inventory, December 31, 1999:

   d) Cost of Goods Manufactured in 1999:

   e) Cost of Goods Sold in 1999:

2) Give the general journal entry required to close the overhead accounts assuming the company policy is to close any under- or over-applied overhead to the cost of goods sold.

HANDOUT PROBLEM #5

The Blackcomb Company uses normal absorption costing in accounting for its production. At the beginning of 1999, the company estimated the direct labor costs (their base activity) at $ 240,000 and the total manufacturing overhead at $ 180,000 .

Give the general journal entries required to record the following transactions **(explanations are not required)**:

1. **Issued $350,000 of direct materials and $ 40,000 of indirect materials to the production process.**

2. **Direct Labor costs of $ 265,000 and indirect labor costs of $ 30,000 were incurred in the period.**

3. **Other costs incurred in the period included:**
   Other Manufacturing Overhead Costs = $ 115,000
   Administrative Salaries = $ 90,000
   Sales Commissions = $ 40,000

4. **Complete 40,000 units with direct material costs of $ 280,000 and direct labor costs of $ 220,000.**

5. **Sold 30,000 units at a selling price of $ 20 per unit (the company uses the perpetual inventory method).**

6. **Closed the Manufacturing Overhead Accounts with any under- or over-applied overhead being charged to the Cost of Goods Sold.**

HANDOUT PROBLEM #6

The Grizzly Company purchases and resells goods to two customer groups (Wholesale and Retail) with the following results for each:

	Wholesale	Retail
Sales	$400,000	$200,000
Cost of Goods Sold	290,000	80,000
Common Costs:		
Purchasing Department Costs		$30,000
Sales Order Processing Costs		60,000
Item Stocking & Retrieval Costs		28,000
Customer Delivery Costs		36,000
Advertising		20,000

REQUIRED:

1) Compute the operating income for each customer group assuming the company allocates the common costs based on Sales $'s.

2) The company has accumulated the following information regarding the two customer groups:

	Wholesale	Retail
Number of customers	500 customers	3,500 customers
Number of Sales Orders	2,000 orders	6,000 orders
Number of items per order	120 items	40 items
Number of deliveries	400 deliveries	3,600 deliveries

- Purchasing costs are incurred equally for all goods regardless if they are sold to Wholesale or Retail
- The costs of filling out sales orders are driven by the number of units ordered
- Delivery costs are determined by the number of items delivered
- Advertising is for promotional mailings to each customer.

Compute the operating income for each customer group using the most logical drivers for each of the common costs.

HANDOUT PROBLEM #7

The Chugach Company has the following Income Statement for November, 1999:

Sales (30,000 units)		$600,000
Cost of Goods Sold:		
Direct Materials	$90,000	
Direct Labor	75,000	
Variable Overhead	60,000	
Fixed Overhead	100,000	
Total Cost of Goods Sold		325,000
Gross Profit Margin		275,000
Operating Costs:		
Variable Marketing	60,000	
Fixed Administrative	200,000	260,000
Operating Income		15,000
Income Taxes (40%)		6,000
Net Income After Taxes		$ 9,000

The Company has the following expected results for **December**, 1999:

- Sales are expected to be 40,000 units in December, 1999 and 20,000 units in January, 2000.
- Finished goods inventories are equal to 3,000 units plus 10% of next month's sales
- Direct Materials Inventory is expected to decrease by $10,000 in December (all purchases are for "cash")
- 30% of all fixed costs represent amortization expense
- Prepaid expenses are expected to decrease by $5,000 and liabilities are expected to increase by $8,000 during December
- Income taxes are payable on the 15th of the month following their incurrence
- Bad debts are expected to be 2% of all credit sales

REQUIRED: SHOW ALL CALCULATIONS FOR PART MARKS!

1) Prepare a **production budget** for **December**, 1999:

2) Calculate the companies estimated **Cash Disbursements** for **December**, 1999.

HANDOUT PROBLEM #8

The Secret Chute Company uses a standard costing system with the following standards based on the production and sales of 30,000 units:

Direct Materials (20 grams @ $3 per gram)	$60 per unit
Direct labor (1.5 hours @ $20 per hour)	30 per unit
Variable Overhead (4 machine hours @ $5 per machine hour)	20 per unit
Fixed Overhead (4 machine hours @ $10 per machine hour)	40 per unit
Total Standard Costs	$150 per unit

Actual results for 1999 included:

- Completed 34,000 units using a total of 140,000 machine hours
- Purchased 700,000 grams of direct materials at an average cost of $3.10 per gram. Issued 675,000 grams to production.
- Direct Labor costs for the year totaled $980,000 for 48,500 hours worked
- Variable overhead costs for the year were [illegible] and the fixed overhead was $1,270,000.

REQUIRED: SHOW ALL CALCULATIONS FOR PART MARKS! USE THE BACK OF THE PREVIOUS PAGE IF EXTRA SPACE IS REQUIRED

1) Give all of the journal entries required for the Direct Materials and Direct Labor (including the transfer to Finished Goods) assuming the company isolates the direct material price variance when the materials are issued.

2) a) Describe an alternative method of isolating the direct materials price variance and calculate the variance under this alternative.

b) Which method is preferable? Why?

HANDOUT PROBLEM #9

Part 1: The Lakers Company uses a standard cost system with the following standards:

Direct Materials (5 kilos @ $3 per kilo)	$15.00 per unit
Direct Labor (2 hours @ $15 per hour)	30.00 " "
Variable Overhead (2 DL hours @ $10 per hour)	20.00 " "
Fixed Overhead (2 DL hours @ $12 per hour)	24.00 " "

Other Information for the month of November:

- the company produced 12,000 units and sold 10,000 units during November
- Direct Labor costs for the month totaled $380,000 for 25,000 hours worked.
- the actual manufacturing overhead incurred in the month totalled $530,000 of which $238,000 was variable manufacturing overhead.
- the output level (or production volume) variance was $36,000 unfavorable in November.

REQUIRED:

a) Calculate and label all of the **Variable Manufacturing Overhead** variances for the month

b) What was the cause of the **"Efficiency"** variance?

c) Calculate the "**spending**" or "**budget**" variance for the **Fixed Manufacturing Overhead** for the month

d) What was the **denominator activity level (in Direct Labor hours)** for the month of November?

Part 2: The Mavericks Company had total variances of $80,000 (unfavorable) in November, when the direct material price variance is isolated at the point of issuance. they also had the following account balances as of November 30th:

Work-in-process	$ 20,000
Finished Goods	60,000
Cost of Goods Sold	240,000

The company has traditionally closed all variances to the "cost of goods sold", but is now considering prorating the variances.

REQUIRED:

a) What would be the change in Operating Income if the company were to prorate the variances? (indicate whether it would be higher or lower)

b) Discuss whether or not the variances should be prorated if they are the result of one of the following causes:

- a break down in the process that occurred during the month
- outdated standards

HANDOUT PROBLEM #10

The Yahoo Gully Company has the following budgeted revenues and costs based on a denominator activity level of 5,000 units:

Sales	$110 per unit
Direct Materials	$ 20 per unit
Direct Labor	10 per unit
Variable Manufacturing Overhead	8 per unit
Fixed Manufacturing Overhead	30 per unit
Variable Selling & Administrative	12 per unit
Fixed Selling & Administrative	25 per unit

REQUIRED: SHOW ALL CALCULATIONS FOR PART MARKS!

1) Prepare an income statement using **"Normal Absorption Costing"** for December when the company produced 6,000 units and sold 4,500 units. All revenues and costs behaved as expected, and the company policy is to close any under- or over-applied overhead to the "cost of goods sold".

2) The company's policy is to pay the CEO a bonus of 40% of all profits. What behavior would their present costing system likely encourage the CEO to take? Why?

3) An "asset" is typically defined as having future economic value, under what circumstances would increases in Finished Goods Inventory for a manufacturing company meet this criteria?

4) Prepare an Income Statement for December, assuming the company uses **"Variable (or Direct) costing"**

5) Explain the difference in operating income between the two costing systems.