Chapter 13 – Planning & Budgeting In-Class Handout

1. The Sledge Hammer Company manufactures a line of high quality tools. The company sold 1,000,000 hammers at a price of $4 per unit last year. The company estimates that this volume represents a 20% share of the current hammers market. The market is expected to increase by 5%. Marketing specialists have determined that, as a result of a new advertising campaign and packaging, the company will increase its share of this larger market to 24%. Due to changes in prices, the new price for the hammer will be $4.30 per unit. This new price is expected to be in line with the competition and have no effect on the volume estimates. What are the estimated sales revenues in the coming year?

A. $5,040,000
B. $5,160,000
C. $5,418,000
D. $5,689,000

$20\% \times \text{current market} = \dfrac{1{,}000{,}000 \text{ hammers}}{20\%}$

current market = 5,000,000 hammers

× 1.05 [5% increase]

5,250,000 hammers (new market size)

× 24%

1,260,000 hammers [SHC's share of new market]

× $4.30 [new price]

$5,418,000 Estimated Sales Revenue

1. The Sledge Hammer Company manufactures a line of high quality tools. The company sold 1,000,000 hammers at a price of $4 per unit last year. The company estimates that this volume represents a 20% share of the current hammers market. The market is expected to increase by 5%. Marketing specialists have determined that, as a result of a new advertising campaign and packaging, the company will increase its share of this larger market to 24%. Due to changes in prices, the new price for the hammer will be $4.30 per unit. This new price is expected to be in line with the competition and have no effect on the volume estimates. What are the estimated sales revenues in the coming year?

A. $5,040,000
B. $5,160,000
C. $5,418,000
D. $5,689,000

1,000,000/.2 = 5,000,000; 5,000,000 × 1.05 = 5,250,000 new market size; 5,250,000 × .24 = 1,260,000 sales (units); 1,260,000 × $4.30 = $5,418,000

AACSB: Analytic
AICPA FN: Decision Making
Blooms: Analyze
Difficulty: 3 Hard
Learning Objective: 13-03 Estimate sales.
Topic Area: Sales Forecasting

2. The Waverly Company has budgeted sales for the year as follows:

Quarter	*1*	*2*	*3*	*4*
Sales in units	12,000	14,000	18,000	16,000

The ending inventory of finished goods for each quarter should equal 25% of the next quarter's budgeted sales in units. The finished goods inventory at the start of the year is 3,000 units. Scheduled production for the third quarter is (in units)

A. 17,500 units
B. 18,500 units
C. 18,000 units
D. 16,500 units

Qtr 1 (units) FG Inv

BB 3000 | 12,000

Qtr 2 (units) FG Inv

| 14,000

EB 4500

Qtr 3 (units) FG Inv

BB 4500 |

$\boxed{17,500}$ produced | 18,000 sold

EB 4000

Qtr 4 (units) FG Inv

| 16,000 sold

25%

25%

2. The Waverly Company has budgeted sales for the year as follows:

Quarter	*1*	*2*	*3*	*4*
Sales in units	12,000	14,000	18,000	16,000

The ending inventory of finished goods for each quarter should equal 25% of the next quarter's budgeted sales in units. The finished goods inventory at the start of the year is 3,000 units. Scheduled production for the third quarter is (in units)

A. 17,500 units
B. 18,500 units
C. 18,000 units
D. 16,500 units

18,000 + (16,000 × .25) - (18,000 × .25) = 17,500 units

AACSB: Analytic
AICPA FN: Decision Making
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 13-04 Develop production and cost budgets.
Topic Area: Forecasting Production

3. The Smart Company is preparing its cash budget for the month of June. The following information is available concerning its accounts receivable:

Estimated credit sales for June	$300,000
Actual credit sales for May	225,000
Est. collections in June for credit sales in June	25%
Est. collections in June for credit sales in May	65%
Est. collections in June for credit sales prior to May	$ 18,000
Est. write-offs in June for uncollectible credit sales	12,000
Est. provision for bad debts in June for credit sales in June	10,000

not relevant to collections.

What are the estimated cash receipts from accounts receivable collections in June?

A. $221,250
B. $227,250
C. $229,250
D. $239,250

	May	June
Credit Sales	$225,000	$300,000
Collections		(25% x 300,000)
		(65% x 225,000)
		18,000
		$239,250

3. The Smart Company is preparing its cash budget for the month of June. The following information is available concerning its accounts receivable:

Estimated credit sales for June	$300,000
Actual credit sales for May	225,000
Est. collections in June for credit sales in June	25%
Est. collections in June for credit sales in May	65%
Est. collections in June for credit sales prior to May	$ 18,000
Est. write-offs in June for uncollectible credit sales	12,000
Est. provision for bad debts in June for credit sales in June	10,000

What are the estimated cash receipts from accounts receivable collections in June?

A. $221,250
B. $227,250
C. $229,250
D. $239,250

$\underbrace{[\$300{,}000\ (.25)]}_{\text{June}} + \underbrace{[\$225{,}000\ (.65)]}_{\text{May}} + \$18{,}000 = \$239{,}250$

AACSB: Analytic
AICPA FN: Decision Making
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 13-05 Estimate cash flows.
Topic Area: Using Cash Flow Budgets to Estimate Cash Needs

E 13-26. Estimate Purchases and Cash Disbursements (LO 13-4, 5)

White Products wishes to purchase goods in one month for sale in the next. On March 31, the company has 8,000 portable music players in stock, although sales for the next month (April) are estimated to total 8,600 players. Total sales of players are expected to be 7,000 in May and 7,400 in June.

Portable music players are purchased at a wholesale price of $45. The supplier has a financing arrangement by which White Products pays 60 percent of the purchase price in the month when the players are delivered and 40 percent in the following month. White purchased 10,000 players in March.

Required

a. Estimate purchases (in units) for April and May.

b. Estimate the cash required to make purchases in April and May.

Solution
on next page →

E 13-26 (25 min.)Estimate Purchases and Cash Disbursements: White Products.

a.

White Products
Merchandise Purchase Budget
For the Period Ended May 31
(in units) players

	April	May
Estimated sales	8,600	7,000
Add: Estimated ending inventory	7,000	7,400
Total merchandise needs	15,600	14,400
Less: Beginning inventory	8,000	7,000
Merchandise to be purchased	7,600	7,400

b. Payments for these purchases are made as follows:

		Month of Delivery		
Month of Payment	Total	March	April	May
April	$385,200	$180,000[a]	$205,200[b]	–0–
May	336,600		136,800[c]	$199,800[d]

[a] $180,000 = 40% x $45 x 10,000 units.
[b] $205,200 = 60% x $45 x 7,600 units.
[c] $136,800 = 40% x $45 x 7,600 units.
[d] $199,800 = 60% x $45 x 7,400 units.

E 13-31. Estimate Cash Receipts (LO 13-5)

Varmit-B-Gone is a pest control service that operates in a suburban neighborhood. The company attempts to make service calls at least once a month to all homes that subscribe to its service. It makes more frequent calls during the summer. The number of subscribers also varies with the season. The number of subscribers and the average number of calls to each subscriber for the months of interest follow:

	Subscribers	Service Calls (per subscriber)
March	600	0.6
April	700	0.9
May.	1,400	1.5
June	1,600	2.5
July	1,600	3.0
August	1,500	2.4

The average price charged for a service call is $80. Of the service calls, 30 percent are paid in the month the service is rendered, 60 percent in the month after the service is rendered, and 8 percent in the second month after. The remaining 2 percent is uncollectible.

Required

What are Varmit-B-Gone's expected cash receipts for May, June, July, and August?

Solution on next page →

E 13-31 (30 min.) Estimate Cash Receipts: Varmit-B-Gone.

Revenues are as follows:

March.....	$28,800 =	0.6 calls	x 600 subscribers	x $80
April........	50,400 =	0.9 calls	x 700 subscribers	x $80
May........	168,000 =	1.5 calls	x 1,400 subscribers	x $80
June.......	320,000 =	2.5 calls	x 1,600 subscribers	x $80
July........	384,000 =	3.0 calls	x 1,600 subscribers	x $80
August....	288,000 =	2.4 calls	x 1,500 subscribers	x $80

Collections of these revenues are expected according to the following schedule:

Varmit-B-Gone
Multiperiod Schedule of Cash Receipts

	Cash Receipts in Month of:				Total Cash Receipts
	May	June	July	August	for Period
March sales	$ 2,304[a]				$2,304
April sales	30,240[b]	$ 4,032			34,272
May sales.......................	50,400[c]	100,800	$13,440		164,640
June sales......................		96,000	192,000	$ 25,600	313,600
July sales			115,200	230,400	345,600
August sales				86,400	86,400
Total cash collections ..	$82,944	$200,832	$320,640	$342,400	$946,816

[a] $2,304 = 8% x $28,800
[b] $30,240 = 60% x $50,400
[c] $50,400 = 30% x $168,000
This pattern is repeated for subsequent months.

13-49. Comprehensive Budget Plan (LO 13-4, 5, 6)

Panther Corporation appeared to be experiencing a good year. Sales in the first quarter were one-third ahead of last year, and the sales department predicted that this rate would continue throughout the entire year. The controller asked Janet Nomura, a summer accounting intern, to prepare a draft forecast for the year and to analyze the differences from last year's results. She based the forecast on actual results obtained in the first quarter plus the expected costs of production to be completed in the remainder of the year. She worked with various department heads (production, sales, and so on) to get the necessary information. The results of these efforts follow:

PANTHER CORPORATION
Expected Account Balances for December 31, Year 2

Cash	$ 4,800	
Accounts receivable	320,000	
Inventory (January 1, Year 2)	192,000	
Plant and equipment	520,000	
Accumulated depreciation		$ 164,000
Accounts payable		180,000
Notes payable (due within one year)		200,000
Accrued payables		93,000
Common stock		280,000
Retained earnings		432,800
Sales revenue		2,400,000
Other income		36,000
Manufacturing costs		
Materials	852,000	
Direct labor	872,000	
Variable overhead	520,000	
Depreciation	20,000	
Other fixed overhead	31,000	
Marketing		
Commissions	80,000	
Salaries	64,000	
Promotion and advertising	180,000	
Administrative		
Salaries	64,000	
Travel	10,000	
Office costs	36,000	
Income taxes	—	
Dividends	20,000	
	$3,785,800	$3,785,800

Adjustments for the change in inventory and for income taxes have not been made. The scheduled production for this year is 450,000 units, and planned sales volume is 400,000 units. Sales and production volume was 300,000 units last year. The company uses a full-absorption costing and FIFO inventory system and is subject to a 40 percent income tax rate. The actual income statement for last year follows:

PANTHER CORPORATION
Statement of Income and Retained Earnings
For the Budget Year Ended December 31, Year 1

Revenues			
Sales revenue		$1,800,000	
Other income		60,000	$1,860,000
Expenses			
Cost of goods sold			
Materials	$ 528,000		
Direct labor	540,000		
Variable overhead	324,000		
Fixed overhead	48,000		
	$1,440,000		
Beginning inventory.	192,000		
	$1,632,000		
Ending inventory	192,000	$1,440,000	
Selling			
Salaries	$ 54,000		
Commissions	60,000		
Promotion and advertising	126,000	240,000	
General and administrative .			
Salaries	$ 56,000		
Travel	8,000		
Office costs	32,000	96,000	
Income taxes		33,600	1,809,600
Operating profit			50,400
Beginning retained earnings			402,400
Subtotal			$ 452,800
Less dividends.			20,000
Ending retained earnings . .			$ 432,800

Required

Prepared a budgeted income statement and balance sheet.

(CMA adapted)

P 13-49

13-49. (60 min.) Comprehensive Budget Plan: Panther Corporation

Panther Corporation
Budgeted Income Statement
(in thousands)

	Actual For the Year Ended December 31, (Year 1)		Budgeted For the Year Ended December 31, (Year 2)	
Revenue:				
Sales revenue	$1,800,000		$2,400,000	
Other income	60,000		36,000	
Total Revenue		$1,860,000		$2,436,000
Expenses:				
Cost of goods manufactured & sold:				
Materials	$ 528,000		$ 852,000	
Direct labor	540,000		872,000	
Variable overhead	324,000		520,000	
Fixed overhead (Depreciation and other)	48,000		51,000	
	$1,440,000		$2,295,000	
Beginning inventory	192,000		192,000	
	$1,632,000		$2,487,000	
Ending inventory	192,000	$1,440,000	459,000[a]	$2,028,000
Marketing:				
Salaries	$ 54,000		$ 64,000	
Commissions	60,000		80,000	
Promotions and advertising	126,000	240,000	180,000	324,000
Administrative:				
Salaries	$ 56,000		$ 64,000	
Travel	8,000		10,000	
Office costs	32,000	96,000	36,000	110,000
Income taxes (credit)		33,600		(10,400)b
Total expenses		$1,809,600		$2,451,600
Operating profit (loss)		$ 50,400		$ (15,600)

[a] See notes to the balance sheet.

CMA adapted

Note: Actual for December 31, Last Year not required but included for comparison.

13-49. (continued)

Panther Corporation
Budgeted Balance Sheet
(in thousands)

	Budgeted December 31, Year 2	
Current Assets		
Cash	$ 4,800	
Accounts receivable	320,000	
Inventory	459,000[a]	
Income tax receivable	10,400[b]	
Total current assets		$794,200
Plant and equipment	520,000	
Less: Accumulated depreciation	164,000	356,000
Total assets		$1,150,200
Current liabilities		
Accounts payable	$180,000	
Accrued payable	93,000	
Notes payable	200,000	
Total current liabilities		$473,000
Shareholders' equity		
Common stock	280,000	
Retained earnings	397,200[c]	
Total shareholders' equity		677,200
Total liabilities and shareholders' equity		$1,150,200

Notes on the next page:

13-49. (continued)

a Inventory

Units:

Beginning inventory $192,000 ÷ $\frac{\$1,440,000}{300,000}$	=	40,000	units
Added to inventory 450,000 – 400,000	=	50,000	units
Ending inventory..		90,000	units

Cost:

Manufacturing costs....................................	$2,295,000	
Units manufactured....................................	450,000	
Cost per unit ($2,295,000 ÷ 450,000)	$5.10	
Ending units	x 90,000	
Cost of ending inventory		$459,000

b Income tax:

Sales & other income		$2,436,000
Cost of goods sold..	$2,028,000	
Selling expense	324,000	
General & administrative expense	110,000	
Total cost		$2,462,000
Tax loss		$ (26,000)
Tax rate		40%
Tax receivable		$ 10,400

c Ending retained earnings = Expected beginning balance plus net income – Dividends
= $432,800 – 15,600 – $20,000. = 397,200

13-50. Prepare Cash Budget for Service Organization (LO 13-4, 5, 6, 7)

The board of directors of the Cortez Beach Yacht Club (CBYC) is developing plans to acquire more equipment for lessons and rentals and to expand club facilities. The board plans to purchase about $50,000 of new equipment each year and wants to begin a fund to purchase a $600,000 piece of property for club expansion.

The club manager is concerned about the club's capability to purchase equipment and expand its facilities. One club member has agreed to help prepare the following financial statements and help the manager ascertain whether the plans are realistic. Additional information follows the financial statements.

CORTEZ BEACH YACHT CLUB
Statement of Income (Cash Basis)
For the Year Ended October 31

	Year 9	Year 8
Cash revenues		
Annual membership fees	$ 710,000	$600,000
Lesson and class fees	468,000	360,000
Miscellaneous	4,000	3,000
Total cash received	$1,182,000	$963,000
Cash costs		
Manager's salary and benefits	$ 72,000	$ 72,000
Regular employees' wages and benefits	380,000	380,000
Lesson and class employees' wages and benefits	390,000	300,000
Supplies	32,000	31,000
Utilities (heat and light)	44,000	30,000
Mortgage interest	70,200	75,600
Miscellaneous	4,000	3,000
Total cash costs	$ 992,200	$891,600
Cash income	$ 189,800	$ 71,400

Additional Information

1. Other financial information as of October 31, Year 9:

a. *Cash in checking account, $14,000.*

b. *Petty cash, $600.*

c. *Outstanding mortgage balance, $720,000.*

d. *Accounts payable for supplies and utilities unpaid as of October 31, Year 9, and due in November Year 9, $5,000.*

2. The club purchased $50,000 worth of sailing equipment during the current fiscal year (ending October 31, Year 9). Cash of $20,000 was paid on delivery, with the balance due on October 1, which had not been paid as of October 31, Year 9.

3. The club began operations in year 3 in rental quarters. In October Year 5, it purchased its current property (land and building) for $1,200,000, paying $240,000 down and agreeing to pay $60,000 plus

6 percent interest annually on the previously unpaid loan balance each November 1, starting November 1, Year 6.

4. Membership rose 3 percent during year 9, approximately the same annual rate of increase the club has experienced since it opened and that is expected to continue in the future.
5. Membership fees were increased by 15 percent in year 9. The board has tentative plans to increase them by 10 percent in year 10.
6. Lesson and class fees have not been increased for three years. The number of classes and lessons has grown significantly each year; the percentage growth experienced in year 9 is expected to be repeated in year 10.
7. Miscellaneous revenues are expected to grow in year 10 (over year 9) at the same percentage as experienced in year 9 (over year 8).
8. Lesson and class employees' wages and benefits will increase to $604,650. The wages and benefits of regular employees and the manager will increase 15 percent. Equipment depreciation and supplies, utilities, and miscellaneous expenses are expected to increase 25 percent.

Required

a. Construct a cash budget for year 10 for Cortez Beach Yacht Club.
b. Identify any operating problem(s) that this budget discloses for CBYC. Explain your answer.
c. Is the manager's concern that the board's goals are unrealistic justified? Explain your answer.

(CMA adapted)

13-50. (40 min.) Prepare Cash Budget for Service Organization: Cortez Beach Yacht Club.

The income statement is on a cash basis, hence we start with a budgeted income statement.

a.

Cortez Beach Yacht Club
Budgeted Statement of Income (Cash Basis)
For the Year 10

Cash revenue			
Annual membership fees	$710,000 x 1.1 x 1.03		$804,430
Lesson and class fees	(468,000 ÷ 360,000) x $468,000)	$608,400	
Miscellaneous	(4,000 ÷ 3,000) x $4,000)	5,333	613,733
Total cash received			$1,418,163
Cash costs			
Manager's salary and benefits ($72,000 x 1.15)			$ 82,800
Regular employees' wages and benefits ($380,000 x 1.15)			437,000
Lesson and class employee wages and benefits (given)			604,650
Supplies ($32,000 x 1.25)			40,000
Utilities (heat and light) ($44,000 x 1.25)			55,000
Mortgage interest ($720,000 x .06)[a]			43,200
Miscellaneous ($4,000 x 1.25)			5,000
Total cash expenses			$1,267,650
Cash income			$ 150,513
Additional Cash Flows			
Cash payments:			
Mortgage payment			$ 60,000
Accounts payable balance at 10/31/Year 9			5,000
Accounts payable on equipment at 10/31/Year 9			30,000
Planned new equipment purchase			50,000
Total cash payments			$ 145,000
Cash inflows from income statement			150,513
Beginning cash balance (including petty cash)			14,600
Cash available for working capital and to acquire property			$ 20,113

[a]On November 1, Year 9, the unpaid balance after annual payment is $720,000, computed as follows: Balances after the $60,000 annual payment November 1, Year 6 = $900,000; November 1, Year 7 = $840,000; November 1, Year 8 = $780,000; November 1, Year 9 = $720,000 and as given in the problem.

13-50. (continued)

b. Operating problems that Cortez Beach Yacht Club could experience in Year 10 include:

- The lessons and classes contribution to cash decreased because the projected wage increase for lesson and class employees is not made up by the increased volume of lessons and classes.
- Operating costs are increasing faster than revenues from membership fees.
- CBYC seems to have a cash management problem. Although there appears to be enough cash generated for the club to meet its obligations, there are past-due amounts on equipment and regular accounts. Perhaps the cash balance might not be large enough for day-to-day operating purposes.

c. The manager's concern with regard to the Board's expansion goals is justified. The Year 10 budget projections show only a minimal increase in the cash balance. The total cash available is well short of the cash needed for the land purchase over and above the club's working capital needs. However, it appears that the new equipment purchases can be made on an annual basis. If the Board desires to purchase the adjoining property, it is going to have to consider significant increases in fees or other methods of financing such as membership bonds, or additional mortgage debt.