Managerial Accounting Workbook

(Version 3.0)

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Table of Contents

A Note to Instructors **3**
Module 1: Introduction to Managerial Accounting **4**
Module 2: Cost Concepts and the Schedule of Cost of Goods Manufactured **9**
Module 3: Job-Order Costing **16**
Module 4: Process Costing **27**
Module 5: Activity-Based Costing **36**
Module 6: Cost Behaviour **43**
Module 7: Cost-Volume-Profit Analysis **50**
Module 8: Budgeting **58**
Module 9: Standard Costs and Variance Analysis **75**
Module 10: Capital Budgeting **88**
Module 11: Performance Measurement: ROI, Residual Income and the Balanced Scorecard **91**
Module 12: Relevant Costs for Decision Making **97**

A Note to Instructors

I hope you find this workbook useful, I just want to point out three key features:

1.) This book is totally free to you and your students. Feel free to copy it or post it to your course website and feel free to share it with colleagues.
2.) Although I am widely distributing a PDF file, I have gone to great effort to make a fully editable Word version of this document. Please contact me if you'd like to have a copy of the Word version. You can edit any of these problems to better fit in your class or simply copy and paste an entire problem into an assignment or test, with the attribution "Source: accountingworkbook.com", or "Adapted from: accountingworkbook.com".
3.) Every problem in this workbook has a video walkthrough available at http://accountingworkbook.com. I suspect the true value in this book lies in the video walkthroughs, as it will be useful for homework and particularly useful for "flipping the classroom".

Please let me know if you would like to see additional question-types or topics included in the future. I intend to add to this book frequently based on your input. Also, any feedback you can provide (particularly student feedback) would be greatly appreciated.

Please note, you do not have my permission to use this for a commercial purpose, nor do you have permission to recreate the videos found at http://accountingworkbook.com. Send me an email if you have any questions about use or attribution.

Thanks for checking out this workbook, and I hope you'll have a look at the companion website: http://accountingworkbook.com !

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Module 1: Introduction to Managerial Accounting

Module Intro Video:

https://youtu.be/3e6EAmAaksU

1-1A – Financial vs Managerial Accounting

Each of the following activities is mainly related to Financial or Managerial Accounting. For each item note if it is more closely related to Managerial Accounting "MA" or Financial Accounting "FA".

a.) Preparing a staffing budget.
b.) Preparing a cash flow statement.
c.) Preparing year end adjusting journal entries.
d.) Preparing a bid on a future contract.
e.) Preparing the management discussion and analysis section of the annual report.

Free/Open Video:
https://youtu.be/3bAKg1DrYhA

1-1B – Financial vs Managerial Accounting

Each of the following activities is mainly related to Financial or Managerial Accounting. For each item note if it is more closely related to Managerial Accounting "MA" or Financial Accounting "FA".

a.) Preparing a bank reconciliation.
b.) Preparing a cash budget.
c.) Preparing a cost over-run report comparing budget data to actual results.
d.) Preparing a cost analysis of a planned building renovation.
e.) Preparing journal entries related to the purchase of a car.

Members Video:
https://youtu.be/ofFN_x0eJb4

1-2A – Strategy, Planning, Directing and Controlling

The following are activities that a manager may perform. Which category does each activity best fit: Strategy Formulation, Planning, Implementation or Control (there is one of each in this solution)

a.) Disney budgeted to spend $10 Billion on exclusive new Disney+ series and movies.
b.) Disney reported to shareholders that the Disney+ service had reached 80 million paying subscribers ahead of schedule, and that the company would increase its spending on Disney+ new series going forward.
c.) Disney studios produced 12 new Marvel and Star Wars series exclusively for Disney+.
d.) Disney chose to compete with Netflix by starting its own streaming service: Disney+.

Members Video:

https://youtu.be/Q1obxPgQpa8

1-2B – Strategy, Planning, Directing and Controlling

The following are activities that a manager may perform. Which category does each activity best fit: Strategy Formulation, Planning, Implementation or Control (there is one of each in this solution)

a.) WhizToilets overspent its first-year budget by $50,000 and had to let go of 4 part time employees.
b.) WhizToilets determined the required staffing level and capital expenses required to open the new retail store.
c.) WhizToilets hired 2 full time employees and 10 part timers and rented a small retail space in Shinjuku.
d.) WhizToilets decided to enter the Asian market by opening a retail location in Tokyo.

Free/Open Video:

https://youtu.be/_jebqthbR5c

1-3A - Ethical Dilemmas faced by young CPAs

It's Saturday evening in tax season, and after a brutal week of tax prep (you worked most of Saturday, much to your dismay), you and your friend Brady Sampson are sharing some beers at the pub. You are complaining to Brady that you've blown the budget on your last 3 files and the next 3 on your desk don't seem to be going any better. You ask Brady how he always manages to get his work done on time and under budget.

"Simple", he says, "I go over budget on some of my files too, but I just eat the time."

You have absolutely no idea what he is talking about, so you ask him what "Eat the time" means.

"I come in on Sunday and work a few hours 'Off the clock' to catch up on the files where I've fallen behind schedule. I don't charge the clients or the CPA firm, I eat the time and the bosses love me for it. The managing partner saw me in last Sunday and gave me a pat on the back. I'm probably going to get promoted next June."

You contemplate what Brady has just said. You are both at the same Junior level in the firm and it's obvious to you that he is on track for promotion, while you are not. Should you start "Eat Time" too?

Required:

a.) List the best 3 reasons for and the best 3 reasons against "eating time".
b.) Is "Eating Time" ethical? Why or why not?
c.) What should you do?

Free/Open Video:

https://youtu.be/HCmF8ITO4aM

1-3B - Ethical Dilemmas faced by young CPAs

It's another Saturday night, and as with most Saturdays, you are out with your coworkers, drinking and complaining about work. You are currently complaining to your best office friend, Susan Haystacks, about your manager:

"I think he is smoking crack – not literally – but he has me working on two files, Zipco he's given me 20 hours to do and it looks like it'll only take me 8, Autoworks he's given me 10 hours and it's going to take at least 15."

Susan quickly replies – "Oh easy solution: Don't go over budget on Autoworks, charge some of that time to the Zipco file, you've got plenty of room there – based on the hours you've laid out, you can easily come in under budget for both. It's a victimless crime, he's going to charge the clients the same thing anyway, regardless of how much time you put in. Might as well beat both budgets rather than having one good file, one bad file."

Required:

a.) List the best 3 reasons for following Susan's advice. List the 3 best reasons against following her advice.
b.) Is Susan's advice ethical? Why or why not?
c.) What should you do?

Members Video:

https://youtu.be/LxX2snuwq84

Module 2: Cost Concepts and the Schedule of Cost of Goods Manufactured

Module Intro Video:

https://youtu.be/1PNrZdvjIrs

2-1A – Cost Classification

The following are costs of Big Rig Trucks, a manufacturer of large diesel vehicles.

1.) Aluminum used in manufacturing each truck's body.
2.) Factory supervisor's salary.
3.) Company president's salary.
4.) Cleaning supplies used for daily cleanup.
5.) Wages of workers who build the engines.
6.) Patent lawyer's costs.
7.) Accounting fees.
8.) Shipping paid on deliveries to customers.

Required: For each cost above, identify whether it is Variable or Fixed, and which category of product or period cost it belongs to – DM/DL/MOH/Selling/Admin/R&D.

	Variable/Fixed?		Product			Period		
	V	F	DM	DL	MOH	Selling	Admin	R&D
#1								
#2								
#3								
#4								
#5								
#6								
#7								
#8								

Members Video:

https://youtu.be/RsZPwDNmjHU

2-1B – Cost Classification

The following are costs of Betty's Burger Truck – a food truck operating in downtown Seattle.

1.) Cooks' wages.
2.) Propane costs to heat the grill.
3.) Gasoline costs to travel to events.
4.) Painting company logo on the side of the truck.
5.) Business license.
6.) Depreciation on the cooking equipment.
7.) Costs of improving the recipe for new bison burger.
8.) Burger meat.

Required: For each cost above, identify whether it is Variable or Fixed, and which category of product or period cost it belongs to – DM/DL/MOH/Selling/Admin/R&D.

	Variable/Fixed?		Product			Period		
	V	F	DM	DL	MOH	Selling	Admin	R&D
#1								
#2								
#3								
#4								
#5								
#6								
#7								
#8								

Members Video:

https://youtu.be/-lZZEwWY8cc

2-2A – Schedule of Cost of Goods Manufactured

Kelowna Plumbing Supplies shows the following data related to its December 31, 2025 fiscal year:

Raw materials inventory, January 1, 2025	$5,000
Raw materials inventory, December 31, 2025	8,000
Work in process inventory, January 1, 2025	23,000
Work in process inventory, December 31, 2025	21,000
Finished goods inventory, January 1, 2025	16,000
Finished goods inventory, December 31, 2025	10,000
Advertising	56,000
Factory supervisor's salary	42,000
Company president's salary	85,000
Property taxes - factory	25,000
Depreciation - factory	35,000
Factory maintenance	7,000
Sales commissions	32,000
Depreciation - office	2,000
Utilities expense - factory	23,000
Utilities expense - office	11000
Purchases of raw materials	148,000
Direct labour	160,000

Required:
Based on the information above, prepare a schedule of cost of goods manufactured.

Members Video:

https://youtu.be/Cz-7QqX5qWs

2-2B – Schedule of Cost of Goods Manufactured

Vernon Bakery shows the following data related to its August 31, 2025 fiscal year:

Raw materials inventory, September 1, 2024	$2,400
Raw materials inventory, August 31, 2025	1,600
Work in process inventory, September 1, 2024	200
Work in process inventory, August 31, 2025	150
Finished goods inventory, September 1, 2024	1,000
Finished goods inventory, August 31, 2025	900
Rent on the commercial kitchen	12,000
Depreciation of delivery vehicle	1,500
Salary paid to head baker	42,000
Purchases of raw materials	58,000
Delivery costs	2,500
Utilities expense - office	600
Depreciation - kitchen equipment	2,000
Dividends paid to shareholders	10,000
Utilities expense - kitchen	1,200
Marketing	3,000
Wages paid to kitchen cleaning staff	16,000
Wages paid to assistant bakers	65,000

Required:
Based on the information above, prepare a schedule of cost of goods manufactured.

Members Video:

https://youtu.be/XGDt1Ajj-V8

2-3A – Schedule of COGM, Schedule of COGS and Income Statement

Outdoor Supplies manufactures gear for hunting and camping. The company shows the following data related to its December 31, 2025 fiscal year end:

Raw materials inventory, January 1, 2025	$14,000
Raw materials inventory, December 31, 2025	17,000
Work in process inventory, January 1, 2025	31,000
Work in process inventory, December 31, 2025	20,000
Finished goods inventory, January 1, 2025	84,000
Finished goods inventory, December 31, 2025	68,000
Direct labour	275,000
Factory supervisor's wages	64,000
Company president's salary	120,000
Purchases of raw materials	425,000
Depreciation (60% factory, 40% office)	240,000
Property taxes (80% factory, 20% office)	20,000
Sales commissions	100,000
Repairs and maintenance (100% relate to the factory)	15,000
Utilities expense (90% factory, 10% office)	30,000
Sales revenue	2,050,000
Advertising	215,000

Required:
Based on the information above:

a.) Prepare a schedule of cost of goods manufactured.
b.) Prepare a schedule of cost of goods sold.
c.) Prepare an income statement (assuming a tax rate of 20%.)

Free/Open Videos:

Part 1: https://youtu.be/O6p30gqcSsI
Part 2: https://youtu.be/Q3mXYanGn6U
Part 3: https://youtu.be/h1TonZ-3490

2-3B – Schedule of COGM, Schedule of COGS and Income Statement

HiSing manufactures beverages for the Taiwanese market. The following data relate to its July 31, 2025 fiscal year end:

Raw materials inventory, August 1, 2024	$185,000
Raw materials inventory, July 31, 2025	140,000
Work in process inventory, August 1, 2024	25,000
Work in process inventory, July 31, 2025	35,000
Finished goods inventory, August 1, 2024	375,000
Finished goods inventory, July 31, 2025	390,000
Direct labour	1,200,000
Sales commissions	400,000
Factory supervisors' wages	240,000
Company president's salary	250,000
Purchases of raw materials	3,250,000
Property taxes (75% factory, 25% office)	100,000
Depreciation (90% factory, 10% office)	1,700,000
Repairs and maintenance (95% factory, 5% office)	200,000
Utilities expense (90% factory, 10% office)	600,000
Sales revenue	10,300,000
Advertising	2,000,000

Required:
Based on the information above:

a.) Prepare a schedule of cost of goods manufactured.
b.) Prepare a schedule of cost of goods sold.
c.) Prepare an income statement (assuming a tax rate of 25%.)

Members Videos:

Part 1: https://youtu.be/O6p30gqcSsI
Part 2: https://youtu.be/6aiFfMI-AkE

Module 3: Job-Order Costing

Module Intro Video:

https://youtu.be/z-kJwZ5cghI

3-1A – Job Order Costing vs Process Costing

For each of the companies listed below, note which costing method would be more appropriate: Job Order Costing (J), or Process Costing (P):

a.) A company that does car repair
b.) A company that does architectural design
c.) A company that makes yoga mats
d.) A company that gives immigration consulting advice
e.) A company that refines oil into gasoline
f.) An accounting firm
g.) A company that manufactures crayons
h.) A company that makes designer handbags

Members Video:

https://youtu.be/cbEs-12TkPQ

3-1B – Job Order Costing vs Process Costing

For each of the companies listed below, note which costing method would be more appropriate: Job Order Costing (J), or Process Costing (P):

a.) A company that produces cutlery
b.) An engineering company
c.) A home renovation contractor
d.) A fire extinguisher manufacturer
e.) A custom cabinet manufacturer
f.) A pop songwriter
g.) A cellphone maker
h.) A cellphone repair shop

Members Video:

https://youtu.be/lLhELcRvvjg

3-2A – Predetermined overhead rate: costing an individual job

Tony's Tables makes high-end, custom boardroom tables. The company applies overhead costs to jobs on the basis of direct labour hours. Before the year, the company estimated its manufacturing overhead to be $250,000, and budgeted its direct labour workforce to work for 20,000 hours during the year.

Job #1843 shows the following cost information:

Walnut: 300 board feet used at a cost of $15 per board foot.

Labour: 240 hours at a cost of $20 per hour.

Required:

a.) Compute the cost of the job.
b.) Assuming the company marks up their price to by three times the cost, what will the company charge its customer for the table?

Free/Open Video:

https://youtu.be/9adEW861-uU

3-2B – Predetermined overhead rate: costing an individual job

Ready Brakes specializes in brake repair in automobiles. The company applies overhead costs to jobs on the basis of direct labour hours. For the current year, total manufacturing overhead was expected to cost $400,000. The total expected direct labour hours were anticipated to be 25,000. The company was working on job #842, a brake pad replacement on a Volkswagen Golf. The following costs were incurred:

New Brake Pads Cost:	$200/set of VW Golf brake pads
Labour:	2 hours of employee time – wage rate of $24 per hour.

Required:

a.) Determine the cost of the job.
b.) Assuming the company charges a flat rate of $500 to replace brake pads, how much gross profit will have been earned on Job #842?

Members Video:

https://youtu.be/stUsTmkEO9M

3-3A – Predetermined Overhead Rate, Overapplied and Underapplied Overhead

Cabinets4U makes and installs custom cabinets for home renovations. The company applies overhead on the basis of direct labour hours. Before the year, the company estimated its annual overhead to be $150,000 and it expects employees to work 10,000 hours. During the year, employees actually worked 11,000 hours and the actual amount spent on overhead was $130,000.

Required:

a.) Compute the predetermined overhead rate.
b.) How much overhead would be applied to jobs during the year?
c.) By how much was overhead overapplied or underapplied for the year?

Members Video:

https://youtu.be/Oh-pOU3EbhE

3-3B – Predetermined Overhead Rate, Overapplied and Underapplied Overhead

Jake's Autobody is a car repair shop. The company uses direct labour cost as a basis for applying manufacturing overhead costs to jobs. The company estimates its annual overhead to be $140,000 and it expects employees to work 20,000 hours at an average wage rate of $14 per hour. During the year, employees actually worked 18,000 hours (at a wage rate of $17 per hour) and the actual amount spent on overhead was $150,000.

Required:

a.) Compute the predetermined overhead rate.
b.) How much overhead would be applied to jobs during the year?
c.) By how much was overhead overapplied or underapplied for the year?

Members Video:

https://youtu.be/ie3uK0GK9gc

3-4A – Predetermined Overhead Rate, Overapplied and Underapplied Overhead

Smith and Smith in an architectural firm. The company uses a job order costing system to apply overhead costs to its jobs on the basis of direct labour hours. Before the year, the company estimated its annual manufacturing overhead would be $140,000 and that its direct-labour workforce would work a total of 3,500 hours.

At the end of July, the company had no jobs in progress. The company began work on two jobs in August – information related to the jobs is below:

	Jones (Job 23)	**Brady (Job 24)**
Direct materials	$8,000	$2,000
Labour costs	$15,000	$3,000
Labour hours	300	60

The Jones job was fully completed, and the company billed and collected $75,000. The Brady job had not been completed by the end of the month, and the client had not been billed.

Months later, actual overhead costs for the month were calculated to be: $17,000.

Required:

a.) Compute the predetermined overhead rate.
b.) Compute the total cost of each job.
c.) How profitable was the Jones job?
d.) By how much was overhead overapplied or underapplied?

Members Video:

https://youtu.be/qZqORCZHbcs

3-4B – Predetermined Overhead Rate, Overapplied and Underapplied Overhead

Jones and Associates is an accounting firm. The company uses a job order costing system to apply overhead costs to its jobs on the basis of direct labour hours. Before the year, the company estimated its annual manufacturing overhead would be $50,000 and that its direct-labour workforce would work a total of 2,000 hours.

At the end of October, the company had no jobs in progress. The company began work on two jobs in November – information related to the jobs is below:

	ABC Co (Job 67)	**Peregrine (Job 68)**
Direct materials	$200	$100
Labour costs	$6,000	$2,000
Labour hours	150	50

The ABC Co job was fully completed, and the company billed and collected $15,000. The Peregrine job had not been completed by the end of the month, and the client had not been billed.

Months later, the actual overhead costs for the month were calculated to be: $4,200.

Required:

a.) Compute the predetermined overhead rate.
b.) Compute the total cost of each job.
c.) How profitable was the ABC Co job?
d.) By how much was overhead overapplied or underapplied for the month?

Members Video:

https://youtu.be/rMXES4unEpI

3-5A – Journal Entries of Job Order Costing

Intercity Roofing manufactures and installs custom shingles for use on damaged roofs of residential houses and apartments. The company uses a specialized manufacturing process to ensure the replacement shingles are an exact match with the existing roof. The company uses a job order costing system to apply manufacturing overhead on the basis of direct labour cost. The company estimates that during the next year, it will incur $70,000 in overhead costs and will pay $140,000 in direct labour costs. During the year, the following transactions occurred:

a.) Purchased $180,000 of direct materials on account.
b.) Purchased $5,000 of supplies on account. (The supplies consisted of glue and cleaning supplies.)
c.) Requisitioned $170,000 of direct materials and $4,500 of supplies for use in production.
d.) Incurred employee costs:

i.	Direct labour	$150,000
ii.	Indirect labour	40,000
iii.	Administrative salaries	190,000
iv.	Sales salaries	30,000
v.	Sales commissions	90,000

e.) Advertised on local television: $5,000
f.) Rent: $12,000. 40% of the space related to sales offices, 60% was a shop used in production of roofing materials.
g.) Depreciation: $25,000. 70% relates to roofing equipment, 30% relates to office equipment.
h.) Insurance expired: $15,000. 90% relates to the factory, the remainder relates to insurance on the office equipment.
i.) Manufacturing overhead costs were applied to production.
j.) Goods costing $375,000 were completed.
k.) The company had sales on account of $800,000. According to cost data, the jobs cost $350,000.

Required:

a.) For items a.)-k.) above, record journal entries. Unless otherwise noted, assume all transactions were on account.
b.) Was overhead overapplied or underapplied for the period? By how much?
c.) Record a journal entry to close overhead to cost of goods sold.
d.) Based on the information above, prepare an income statement for the company – assume a 20% tax rate.

Free/Open Videos:

Part 1: https://youtu.be/fX7s282scsg

Part 2: https://youtu.be/t8d_sZHjVuc

3-5B – Journal Entries of Job Order Costing

Ace Cakes makes cakes and desserts for all festive occasions. The company uses a job order costing system to allocate manufacturing overhead costs to jobs on the basis of direct labour hours. The company's wages are unusually high as it employs highly skilled pastry chefs in making desserts and pays its chefs $25 per hour. The company anticipates overhead costs for the upcoming year to be $150,000 and expects to see its pastry chefs work for a combined total of 16,000 hours. The following transactions occurred during the year:

a.) Purchased $250,000 of direct materials on account.
b.) Purchased $10,000 of cleaning supplies on account.
c.) Requisitioned $240,000 of direct materials and $9,500 of supplies for use in production.
d.) Incurred employee costs:
    i. Direct labour $450,000 (The actual wage rate was $25 per hour)
    ii. Indirect labour 50,000
    iii. Administrative salaries 200,000
    iv. Sales wages 80,000
e.) Advertising: $3,000
f.) Property taxes: $8,000. 10% of the space related to sales offices, 90% was the kitchen.
g.) Depreciation: $55,000. 80% relates to kitchen equipment, 20% relates to office equipment.
h.) Insurance expired: $15,000. 90% relates to the kitchen, the remainder relates to insurance on the office equipment.
i.) Manufacturing overhead costs were applied to production.
j.) Desserts costing $790,000 were completed.
k.) The company had sales on account of $1,800,000. According to cost data, the jobs cost $720,000.

Required:

a.) For items a.)-k.) above, record journal entries. Unless otherwise noted, assume all transactions were on account.
b.) Was overhead overapplied or underapplied for the period? By how much?
c.) Record a journal entry to close overhead to cost of goods sold.
d.) Based on the information above, prepare an income statement for the company – assume a 25% tax rate.

Members Videos:

Part 1: https://youtu.be/fE6XrTX5d_w
Part 2: https://youtu.be/jGsyhrK-0Tg

Module 4: Process Costing

Module Intro Video:

https://youtu.be/SQnU0PeD5Ac

Templates:

Weighted Avg Template	https://www.accountingworkbook.com/uploads/4/9/8/9/49896931/wa_template_for_ma_mod_4.xlsx
FIFO Template	https://www.accountingworkbook.com/uploads/4/9/8/9/49896931/fifo_template_for_ma_mod_4.xlsx

4-1A – Production Report

Bertuzzi Tires has three departments. Its first department (the Processing Department) shows the following data for the month of July:

Work in process, beginning:	
Units in process	8,000
Stage of completion with respect to materials	80%
Stage of completion with respect to conversion	35%
Costs in the beginning inventory:	
Materials cost	$110,500
Labour cost	$33,000
Overhead cost	$26,000
Units started into production during the month	94,000
Units completed and transferred out	92,000
Costs added to production during the month:	
Materials cost	$950,000
Labour cost	$310,000
Overhead cost	$170,000
Work in process, ending:	
Units in process	???
Stage of completion with respect to materials	90%
Stage of completion with respect to conversion	60%

Required:

Using the weighted average method, prepare a production cost report for the company.

Free/Open Video:

https://youtu.be/mghD-Ud_LHA

4-1B – Production Report

Ritchie Company has two departments. Its first department (the Melting Department) shows the following data for the month of April:

Work in process, beginning:	
Units in process	400
Stage of completion with respect to materials	60%
Stage of completion with respect to conversion	85%
Costs in the beginning inventory:	
Materials cost	$105
Labour cost	$108
Overhead cost	$300
Units started into production during the month	1,100
Units completed and transferred out	1,400
Costs added to production during the month:	
Materials cost	$2,100
Labour cost	$1,000
Overhead cost	$1,700
Work in process, ending:	
Units in process	???
Stage of completion with respect to materials	70%
Stage of completion with respect to conversion	80%

Required:

Using the weighted average method, prepare a production cost report for the company.

Members Video:

https://youtu.be/BPfnyWc9hXs

4-2A – Production Report

Stable Platforms manufactures tables. Materials are added at the beginning of the process and conversion costs are incurred evenly throughout the process. Data for February follows:

Production Data

	Units	Percent Complete
Units in process, February 1	120	75%
Units started into production	380	
Units in process, February 28	100	50%

Cost Data

Work in process, Feb 1:	
Materials	$1,100
Labour	700
Manufacturing overhead	820

Costs added:	
Materials	$4,000
Labour	300
Manufacturing overhead	2,500

Required:

Using the weighted average method, prepare a production cost report for the company.

Members Video:

https://youtu.be/LCO3yzaRkac

4-2B – Production Report

Daring Watercraft manufactures small boats. Materials are added at the beginning of the process and conversion costs are incurred evenly throughout the process. Data for April follows:

Production Data

	Units	Percent Complete
Units in process, April 1	1000	60%
Units started into production	4000	
Units in process, April 30	1500	20%

Cost Data

Work in process, April 1:	
Materials	$25,500
Labour	3,000
Manufacturing overhead	6,000

Costs added:	
Materials	$90,000
Labour	12,000
Manufacturing overhead	18,900

Required:

Using the weighted average method, prepare a production cost report for the company.

Members Video:

https://youtu.be/uZfbpNznZ-M

4-3A – Production Report

Mom's Cookies has two departments, Baking and Packaging. Raw materials are introduced at the beginning of the baking process. The following is the department's work in process T-Account for May:

Work in Process – Baking Department

May 1 balance: (50 kilograms; 60% complete as to conversion)	750	Completed and transferred to the packaging department (? kilograms)	?
Costs added:			
Materials (1,500 kilograms)	7,035		
Labour	1,500		
Overhead	9,400		
May 31 balance (40 kilograms, 25% complete)	?		

The beginning work in process includes material of $250, labour of $100, and overhead of $400.

Required:

Using the weighted average method, prepare a production cost report for the company.

Members Video:

https://youtu.be/7PwRUFFy-tw

4-3B – Production Report

Traffic Control Systems makes bright rubber traffic cones. The company has two departments, Melting and Forming. Raw materials are introduced at various stages throughout the melting process. The following is the department's work in process T-Account for August:

Work in Process – Melting Department

Aug 1 balance: (200 kilograms; 80% complete as to materials, 70% complete as to conversion)	352	Completed and transferred to the packaging department (? kilograms)	?
Costs added:			
Materials (2,050 kilograms)	890		
Labour	400		
Overhead	2,000		
Aug 31 balance (40 kilograms, 50% complete as to materials, 60% complete as to conversion)	?		

The August 1 work in process includes material of $100, labour of $52, and overhead of $200.

Required:

Using the weighted average method, prepare a production cost report for the company.

Members Video:

https://youtu.be/p_LKe4sFQbQ

4-4A – Production Report - FIFO

Piroddi Brakes has three departments. Its first department (the Processing Department) shows the following data for the month of May:

Work in process, beginning:	
Units in process	8,000
Stage of completion with respect to materials	80%
Stage of completion with respect to conversion	35%
Costs in the beginning inventory:	
Materials cost	$110,500
Labour cost	$33,000
Overhead cost	$26,000
Units started into production during the month	94,000
Units completed and transferred out	92,000
Costs added to production during the month:	
Materials cost	$964,920
Labour cost	$333,200
Overhead cost	$190,400
Work in process, ending:	
Units in process	???
Stage of completion with respect to materials	90%
Stage of completion with respect to conversion	60%

Required:

Using the FIFO method, prepare a production cost report for the company.

Members Video:

https://youtu.be/PiY7WxGci3o

4-4B – Production Report - FIFO

Rick Company has two departments. Its first department (the Melting Department) shows the following data for the month of June:

Work in process, beginning:	
Units in process	400
Stage of completion with respect to materials	60%
Stage of completion with respect to conversion	90%
Costs in the beginning inventory:	
Materials cost	$170
Labour cost	$160
Overhead cost	$300
Units started into production during the month	1,100
Units completed and transferred out	1,400
Costs added to production during the month:	
Materials cost	$1,845
Labour cost	$820
Overhead cost	$1,700
Work in process, ending:	
Units in process	???
Stage of completion with respect to materials	70%
Stage of completion with respect to conversion	80%

Required:

Using the FIFO method, prepare a production cost report for the company.

Members Video:

https://youtu.be/al6mufRDL0M

Module 5: Activity-Based Costing

Module Intro Video:

https://youtu.be/uIyydrCcWiM

5-1A –Activity Based Costing

E-Scoot plans to manufacture electric scooters for urban commuters. The company expects to have two models, the "Commuter" and the "Range" models. The company will use activity-based costing to apply its estimated $145,000 of overhead costs to its products. Information about its overhead follows:

Activity (Cost Driver)	Estimated MOH	Expected Activity		
		Total	Commuter	Range
Assembly (Labour Hours)	$20,000	10,000	6,000	4,000
Quality control (Inspection Hours)	35,000	2,000	600	1,400
Parts Admin (Number of Parts)	90,000	100	40	60
	$145,000			

The following cost data is known:

	Commuter	Range
Direct Materials	$600	$900
Direct Labour	250	400
Number of units produced	250 units	150 units

The company has not yet determined its planned selling price, but knows that the average price for competitors of the Commuter model is $1,200. For the Range model, competitors are priced at $1,700 on average.

Required:

a.) Compute the activity rates for each activity.
b.) Determine the expected unit cost of each product.
c.) If E-Scoot prices its products in line with competitors, what will the margins be on each product? The largest competitors have gross profit margins of 23%, how does E-Scoot compare?

Members Video:

https://youtu.be/_Ry7Roeqif4

5-1B –Activity Based Costing

EgoDrone Inc. manufactures two models of "Selfie Drones" - small toy helicopters which follow users around taking aerial video while the user participates in extreme sports. Whether the user is rafting down a raging river, or renewing their life insurance, all activities can be documented by the products two models: "Sport" or "Pro". The company will use activity-based costing to apply its estimated $350,000 of overhead costs to its products. Information about its overhead follows:

Activity (Cost Driver)	Estimated MOH	Expected Activity		
		Total	Sport	Pro
Assembly (Machine Hours)	$40,000	5,000	3,000	2,000
Quality control (# of inspections)	110,000	550	250	300
Machine Setups (# of Setups)	200,000	200	70	130
	$350,000			

The following cost data is known:

	Sport	Pro
Direct Materials	$300	$500
Direct Labour	50	80
Number of units produced	250 units	150 units

Required:

a.) Compute the activity rates for each activity.
b.) Determine the expected unit cost of each product.

Members Video:

https://youtu.be/ufYu1qW32f8

5-2A – Comparing Traditional Costing and Activity Based Costing

Double Bounce Trampolines produces two models of trampolines for backyard fun. The "Original", and the recently introduced "Deluxe". The Deluxe model introduced several safety features that were intended to scare overly protective parents into upgrading. Since its introduction, the deluxe model has been increasing in sales, but at the same time, the company's profits have been declining. The CFO believes that the company's traditional costing system may be to blame. Currently, the company uses direct-labour hours as the basis for applying overhead. The company estimates that it will incur $600,000 in overhead costs in the next year.

The following cost data is known:

	Original	Deluxe
Direct Materials	$50	$75
Direct Labour ($10 per hour)	20	30
Number of units produced	7,000 units	2,000 units

The CFO wishes to explore an activity-based costing system

Activity (Cost Driver)	Estimated MOH	Expected Activity		
		Total	Standard	Deluxe
Assembly (Labour Hours)	$100,000	20,000	14,000	6,000
Receiving (Receiving Reports)	200,000	4,000	2,000	2,000
Testing (Number of Tests)	300,000	1,000	200	800
	$600,000			

Required:

a.) Under the traditional costing method:
   i. Compute the predetermined overhead rate.
   ii. Determine the unit cost of each product.

b.) Under activity-based costing:
   i. Compute the activity rates for each activity.
   ii. Determine the expected unit cost of each product.

c.) Compare and comment on your answers from parts a.) and b.) above.

d.) If ABC produces more accurate cost data, why is it not more widely used?

Free/Open Video:

https://youtu.be/XHkuE82lL_w

5-2B – Comparing Traditional Costing and Activity Based Costing

You're in Hot Water Inc. manufactures Jacuzzi hot tubs. The company produces two models, the "Basic" and the "Superjet" which promises a jet power setting that "borders on cruel". Since the introduction of the Superjet, the company's profits have been faltering, despite increased sales. The company's senior accountant believes that the costing system may be causing problems. The company uses direct-labour hours as the basis for applying overhead. Overhead is estimated to be $300,000.

The following cost data is known:

	Basic	Superjet
Direct Materials	$700	$1200
Direct Labour ($15 per hour)	60	90
Number of units produced	600 units	100 units

The CFO wishes to explore an activity-based costing system

Activity (Cost Driver)	Estimated MOH	Expected Activity		
		Total	Basic	Superjet
Assembly (Labour Hours)	$60,000	3,000	2,400	600
Quality control (Inspection Hours)	75,000	800	600	200
Machining (Machine Hours)	25,000	40,000	30,000	10,000
Parts Admin (Number of Parts)	140,000	500	100	400
	$300,000			

Required:

a.) Under the traditional costing method:
   i. Compute the predetermined overhead rate.
   ii. Determine the unit cost of each product.

b.) Under activity-based costing:
   i. Compute the activity rates for each activity.
   ii. Determine the expected unit cost of each product.

c.) Compare and comment on your answers from parts a.) and b.) above.

d.) If ABC produces more accurate cost data, why is it not more widely used?

Members Video:

https://youtu.be/t_uIPgoAdvw

5-3A – Activity Based Costing and Over/Underapplied Overhead

Neistat Corporation uses Activity Based Costing to determine product costs for its two lines of electric skateboard – the Turbo and the Plus. At the beginning of the year, the company broke its overhead costs down into the following three activity cost pools:

Activity (Cost Driver)	Estimated MOH	Expected Activity		
		Total	Turbo	Plus
Assembly (Machine Hours)	$400,000	4,000	3,000	1,000
Product Testing (Number of Tests)	200,000	1,000	600	400
Parts Admin (Number of Parts)	300,000	250	100	150
	$900,000			

During the year, the following actual costs and activities occurred:

Activity (Cost Driver)	Actual MOH	Actual Activity		
		Total	Turbo	Plus
Assembly (Machine Hours)	$450,000	4,600	3,700	900
Product Testing (Number of Tests)	180,000	1,250	1000	250
Parts Admin (Number of Parts)	330,000	225	120	105
	$950,000			

Required:

a.) Compute the activity rate of each of the cost pools.

b.) Given the actual activity levels, how much overhead would be applied to each product line and how much overhead would be applied in total?

c.) How does the applied MOH compare to the actual MOH, by how much is overhead overapplied, or underapplied?

d.) Record the following:

i. The journal entry for ACTUAL MOH (Credit Accounts Payable)

ii. The journal entry for APPLYING MOH based on your calculations in b.)

iii. The adjustment to overapplied or underapplied MOH through Cost of Goods Sold

Members Video:

https://youtu.be/BF7QXmHeUms

5-3B – Activity Based Costing and Over/Underapplied Overhead

Jesse Corporation uses Activity Based Costing to determine product costs for its two lines of surfboards – the Long and the Skim. At the beginning of the year, the company broke its overhead costs down into the following three activity cost pools:

Activity (Cost Driver)	Estimated MOH	Expected Activity		
		Total	Long	Skim
Engineering (Engineering Hours)	$100,000	500	200	300
Assembly (Assembly Hours)	150,000	7,500	5,000	2,500
Maintenance (Maintenance Hours)	80,000	1,000	700	300
	$330,000			

During the year, the following actual costs and activities occurred:

Activity (Cost Driver)	Actual MOH	Actual Activity		
		Total	Long	Skim
Engineering (Engineering Hours)	$75,000	300	125	175
Assembly (Assembly Hours)	125,000	7,000	4,800	2,200
Maintenance (Maintenance Hours)	50,000	600	400	200
	$250,000			

Required:

a.) Compute the activity rate of each of the cost pools.

b.) Given the actual activity levels, how much overhead would be applied to each product line and how much overhead would be applied in total?

c.) How does the applied MOH compare to the actual MOH, by how much is overhead overapplied, or underapplied?

d.) Record the following:

i. The journal entry for ACTUAL MOH (Credit Accounts Payable)

ii. The journal entry for APPLYING MOH based on your calculations in b.)

iii. The adjustment to overapplied or underapplied MOH through Cost of Goods Sold

Members Video:

https://youtu.be/1dg9fgTZ6_Y

Module 6: Cost Behaviour

Module Intro Video:

https://youtu.be/Axeecq5TByU

6-1A – Graphing Cost Behaviour

For each of the following costs, prepare a ROUGH graph that illustrates the cost behaviour. The y-axis will be the cost and the x-axis will be the activity level.

a.) Cost of a cell phone plan. The plan charges a flat rate of $20 per month for unlimited calling and text messaging + $0.10/Megabyte. (The activity is data usage)

b.) Cost of plastic used in manufacturing small garbage bins. Each bin takes 600 grams of plastic. (The activity is the number of bins manufactured.)

c.) Cost of rent on an automotive parts manufacturing factory. (The activity is the number of good parts produced.

d.) Cost of professors' salaries to teach introductory accounting. Cost is $5,000 per class section. Sections have a maximum size of 50 students. The university typically has between 120 and 220 students enrolled in the course. (The activity is the number of students).

e.) Wages cost for staff at a construction site. Employees are paid $15/hour, but must be paid for a minimum of two hours and in two-hour increments. (The activity is hours worked).

f.) Cost of private jet rental. The cost is $500 per hour for the first 4 hours and $300 per hour thereafter. (The activity is rental-hours).

g.) The cost of a rental car. The cost is a flat rate of $50 per day for the first 50 kilometers, then $0.50 per kilometer driven. (The activity is the number of kilometers driven.)

Members Video:

https://youtu.be/XFL7kSEWItA

6-1B – Graphing Cost Behaviour

For each of the following costs, prepare a ROUGH graph that illustrates the cost behaviour. The y-axis will be the cost and the x-axis will be the activity level.

a.) The cost of ski season's pass. The pass costs $750 and is usable for the full ski season. (Activity is number of ski trips.)

b.) Electricity cost. The cost is $10 per month plus $0.10 per kWh for the first 1,000 kWh and $0.15 per kWh thereafter. (Activity is the number of kWh. – kWh = kilowatt hours)

c.) Cost of beverage syrup for a restaurant. The cost is $0.25/liter for the first 100 liters of an order, $0.20 per liter for the next 100 liters of an order, and $0.18/liter thereafter. (Activity is the number of liters ordered.)

d.) Cost of mufflers in the manufacture of cars. Each car requires one muffler. (Activity is the number of cars produced).

e.) Cost of a "Vacation Club" membership where customers pay $5,000 per year to become members, then pay a $75 fee per night of use. (Activity is the number of days used).

f.) Customer support staff costs. For each 10,000 customers, one full time customer support employee is required. Assume employees are paid a fixed salary. (Activity is the number of customers.)

g.) Staffing costs at a pipe manufacturer. Each employee can make 10 pipes per day and is paid a salary of $80 per day. (Activity level is the number of pipes ordered per day.)

Members Video:

https://youtu.be/NLptObxP2WE

6-2A – High-Low Method, Scattergraph, Least-squares Regression

Danny Office Supplies shows the following data related to shipping costs for the first six months of the year:

	Number of Packages Shipped	Shipping Cost
January	100	$1,200
February	120	1,300
March	125	1,350
April	130	1,500
May	110	1,400
June	90	1,100

Required:

a.) Using the high-low method, estimate the cost formula (write it in y=mx+b format).
   i. Using your answer from part a.) above, assuming in July the company expects to ship 150 packages, what will be the company's estimated shipping cost.

b.) Using the scattergraph method, estimate the cost formula.

c.) Using the least squares regression method, estimate the cost formula.

d.) Are there any factors other than the number of packages shipped that may contribute to a variation in shipping cost?

Free/Open Video:

Part 1: https://youtu.be/lB17YJonSd8
Part 2: https://youtu.be/q8y7uVbJAfc
Part 3: https://youtu.be/MEPU3EAjsGk

6-2B – High-Low Method, Scattergraph, Least-squares Regression

Pane of Glass Inc. produces custom glasswork for high-end homes and buildings. The following cost data relate to the company's labour costs.

	Units Produced	Labour Cost
July	400	$15,000
August	300	13,000
September	320	13,200
October	350	13,800
November	420	16,000
December	410	14,800

Required:

a.) Using the high-low method, estimate the cost formula (write it in y=mx+b format).
   i. Using your answer from part a.) above, assuming in the following month the company expects to make 250 units, what will be the company's estimated labour cost.

b.) Using the scattergraph method, estimate the cost formula.

c.) Using the least squares regression method, estimate the cost formula.

d.) Are there any factors other than the number of units produced that may contribute to a variation in labour cost?

Members Video:

https://youtu.be/S1j38cZ8pcg

6-3A – High-Low Method, Scattergraph, Least-squares Regression

Bill's Burger Restaurant has noticed a strong correlation between the number of customers served and the monthly maintenance costs:

	Number of Customers	Maintenance Cost
January	1,300	$4,000
February	1,400	4,100
March	1,600	4,400
April	1,650	5,000
May	1,500	4,250
June	1,700	4,800

Required:

a.) Using the high-low method, estimate the cost formula (write it in y=mx+b format).
   i. Using your answer from part a.) above, assuming in July the company expects to have 2,000 customers, what will be the company's estimated maintenance cost.

b.) Using the scattergraph method, estimate the cost formula.

c.) Using the least squares regression method, estimate the cost formula.

d.) Are there any factors other than the number of customers that may contribute to a variation in maintenance cost?

Members Video:

https://youtu.be/bmgFE_ud3J0

6-3B – High-Low Method, Scattergraph, Least-squares Regression

Charming Clothiers manufactures neckties and bow ties. The company has the following cost data:

	Units Produced	Utilties Cost
July	200	$800
August	220	810
September	250	880
October	350	950
November	300	900
December	150	850

Required:

a.) Using the high-low method, estimate the cost formula (write it in y=mx+b format).
   i. Using your answer from part a.) above, assuming in the following month the company expects to make 100 units, what will be the company's estimated utilities cost.

b.) Using the scattergraph method, estimate the cost formula.

c.) Using the least squares regression method, estimate the cost formula.

d.) Are there any factors other than the number of units produced that may contribute to a variation in utilities cost?

Members Video:

https://youtu.be/54oB1Kq4eWc

Module 7: Cost-Volume-Profit Analysis

Module Intro Video:

https://youtu.be/tuKLU6aQnJg

Cost Volume Profit Formulas

1. Sales – Variable Expenses = Contribution Margin
1a. Selling Price per Unit – Variable Expenses per Unit = CM per Unit

2. Breakeven point in Units = $\frac{\text{Fixed Expenses}}{\text{CM/unit}}$

3. Breakeven point in Dollars = B/E Units x Selling Price per Unit

4. Breakeven point in Dollars = $\frac{\text{Fixed Expenses}}{\text{CM Ratio}}$

5. Contribution Margin Ratio = $\frac{\text{CM}}{\text{Sales}}$

6. Sales – Variable expenses – Fixed Expenses = Operating Profit (income)
6a. S – VE = CM; CM – Fixed = Operating Profit (Income)

7. Target Sales in Units = $\frac{\text{Fixed Expenses + Target Operating Profit}}{\text{CM/unit}}$

8. Target Sales in Dollars = $\frac{\text{Fixed Expenses + Target Operating Profit}}{\text{CM ratio}}$

9. Operating Leverage = $\frac{\text{CM}}{\text{Net income}}$

10. Safety Margin = Budgeted Sales – Breakeven Sales

7-1A – CVP Analysis, Margin of Safety, Degree of Operating Leverage
Charming Clothiers manufactures neckties and bow ties. The company has the following information:

The company's sales price is $30 per unit. The variable costs of producing bowties is $18 per unit. The company expects to have fixed costs of $60,000 next year. The company expects to sell 8,000 bowties next year. Assume no taxes.

a.) Calculate the breakeven point in units.
b.) Calculate the breakeven point in dollars.
c.) How many units must the company sell to reach a target profit of $50,000?
d.) Prepare a budgeted contribution format income statement.
e.) Compute the margin of safety in both dollar and percentage terms.
f.) Compute the degree of operating leverage.
g.) If sales increase by 20% in the following year, how much would net income increase (use the degree of operating leverage to compute your answer).

Free/Open Video:

Part 1: https://youtu.be/gjj8LnrnyCo

Part 2: https://youtu.be/wkzZpKbZ_nk

7-1B – CVP Analysis, Margin of Safety, Degree of Operating Leverage

Flora's Flats produces comfortable and portable women's shoes designed to be worn as a second pair of shoes after a formal event. The company has the following financial information:

The company's sales price is $20 per unit. The variable costs of producing flats is $6 per unit. The company expects to have fixed costs of $10,000 next year. The company expects to sell 1,000 pairs of flats next year. Assume no taxes.

a.) Calculate the breakeven point in units.
b.) Calculate the breakeven point in dollars.
c.) How many units must the company sell to reach a target profit of $25,000?
d.) Prepare a budgeted contribution format income statement.
e.) Compute the margin of safety in both dollar and percentage terms.
f.) Compute the degree of operating leverage.
g.) If sales increase by 20% in the following year, how much would net income increase (use the degree of operating leverage to compute your answer).

Members Video:

https://youtu.be/V0oZJOsUZhI

7-2A – CVP Analysis, "What if?" Analysis

Hewins Inc's projected contribution-format income statement for the upcoming year is shown below:

Sales (10,000 units)	$2,000,000
Variable expenses	1,400,000
Contribution margin	600,000
Fixed expenses	500,000
Net operating income	$100,000

Required:

a.) Compute the breakeven point in units.
b.) Compute the breakeven point in dollars.
c.) If the company wishes to earn a target profit of $300,000, how many units must be sold?
d.) Compute the company's margin of safety. State your answer in both dollar and percentage terms.
e.) The company's manager thinks that increasing advertising by $150,000 will increase sales by $250,000. If he is correct, what will be the net dollar advantage or disadvantage of making this change?
f.) Refer to the original data, the company's manager believes that using a slightly cheaper direct material will decrease variable expenses (per unit) by 10% will reduce units sold by 5%. If he is correct, what will be the net dollar advantage or disadvantage of making this change?
g.) Refer to the original data, the company's direct labour workforce received a raise that will increase variable expenses by $10 per unit. The manager wishes to maintain the exact same contribution margin ratio as the original data. What sales price will need to be charged to maintain the same contribution margin ratio?

Members Video:

https://youtu.be/t-7VLoTS0-I

7-2B – CVP Analysis, "What if?" Analysis

Kevin Co.'s projected contribution-format income statement for the upcoming month is shown below:

Sales (500 units)	$10,000
Variable expenses	4,000
Contribution margin	6,000
Fixed expenses	1,000
Net operating income	$5,000

Required:

a.) Compute the breakeven point in units.
b.) Compute the breakeven point in dollars.
c.) If the company wishes to earn a monthly target profit of $10,000, how many units must be sold each month?
d.) Compute the company's margin of safety. State your answer in both dollar and percentage terms.
e.) The company's manager thinks that adding a salaried sales staff member at a cost of $2,000 per month will increase sales by $4,000 per month. If he is correct, what will be the net dollar advantage or disadvantage of making this change?
f.) Refer to the original data, the company's manager believes that a new production process will improve profitability. He plans to add new machinery that will cut variable expenses in half. This will increase fixed expenses by $3,000. He expects after this change the company's unit sales will increase by 25%. If he is correct, what will be the net dollar advantage or disadvantage of making this change?
g.) Refer to the original data, the company expects to decrease variable expenses by 5% and wishes to pass the savings along to customers. The manager wishes to maintain the exact same contribution margin ratio as the original data. What sales price will need to be charged to maintain the same contribution margin ratio?

Members Video:

https://youtu.be/xXHVUfrSTqE

7-3A – Multi-product CVP

Awesome Axes sells electric guitars. The company sells three models of guitar: Enthusiast, Jammer and Pro.

Information relating to next year's budget for the three models follows:

	Enthusiast	Jammer	Pro
Expected sales (units)	600	350	50
Sales price	$200	$500	$3,000
Variable cost	$120	$200	$800

The company has annual fixed costs of $200,000 and a tax rate of 25%.

Required:

a.) Compute the company's expected profit (net income) for the upcoming fiscal period.
b.) Compute the company's sales mix.
c.) Assuming a consistent sales mix, how many units of each product type must the company sell to break even?
d.) Assuming a consistent sales mix, if the company wishes to earn net income of $300,000, how many units of each product type must be sold?
e.) Compute the margin of safety in both dollar and percentage terms.

Members Video:

https://youtu.be/fpazCsZylz0

7-3B – Multi-product CVP

Tony's is a Pizzeria located near a local university. The restaurant not only sells two types of pizza: Thin Crust and Deep Dish, but also sells Pasta.

Information relating to the three products for the next month follows:

	Thin Crust	Deep Dish	Pasta
Expected sales (units)	1,000	400	200
Sales price	$15	$20	$12
Variable cost	$6	$8	$5

The company has monthly fixed costs of $10,000 and a tax rate of 20%.

Required:

a.) Compute the company's expected profit (net income) for the upcoming fiscal period.
b.) Compute the company's sales mix. (Note Solve the normal way
c.) Assuming a consistent sales mix, how many units of each product type must the company sell to break even?
d.) Assuming a consistent sales mix, if the company wishes to earn monthly net income of $25,000, how many units of each product type must be sold?
e.) Compute the margin of safety in both dollar and percentage terms.

Free/Open Video:

https://youtu.be/mOLGRDPQ3d4

Module 8: Budgeting

Module Intro Video:

https://youtu.be/6Mk-PZ8BB6c

8-1A - Sales Budget and Schedule of Expected Cash Collections

Baker Company shows the following estimates for unit sales for next year:

	Q1	Q2	Q3	Q4	Year
Units sold	11,000	12,000	14,000	13,000	50,000

The company expects to sell its goods for $50 per unit.

Required:

a.) Prepare a sales budget for the year ended December 31.

Additional information

The company expects to collect 70% of sales in the quarter of the sale, and 25% in the quarter following the sale. 5% of sales are expected to be uncollectible. The company's beginning accounts receivable was $125,000, all of which was expected to be collected in the first quarter.

Required:

b.) Prepare a schedule of expected cash collections for the year ended December 31.

Free/Open Video:

https://youtu.be/Ch0Y_gTG9UY

8-1B - Sales Budget and Schedule of Expected Cash Collections

Green Company shows the following estimates for unit sales for next year:

	Q1	Q2	Q3	Q4	Year
Units sold	1,000	1,200	1,250	2,100	5,550

The company expects to sell its goods for $12 per unit.

Required:

a.) Prepare a sales budget for the year ended December 31.

Additional information

The company expects to collect 90% of sales in the quarter of the sale, and 8% in the quarter following the sale. 2% of sales are expected to be uncollectible. The company's beginning accounts receivable was $900, all of which was expected to be collected in the first quarter.

Required:

b.) Prepare a schedule of expected cash collections for the year ended December 31.

Members Video:

https://youtu.be/2SB8LeiOSGc

8-2A - Production Budget

Danny Company shows the following estimates for unit sales for the first quarter of its upcoming fiscal year:

	January	February	March	Quarter
Units sold	3,000	3,500	4,500	11,000

The company requires finished goods inventory on hand equal to 20% of the next month's expected sales.

The company expects to begin January with 600 units in inventory. The expected unit sales for April are 5,000.

Required:

Prepare a production budget for the quarter.

Free/Open Video:

https://youtu.be/H_s81IAXddA

8-2B - Production Budget

Joanne Company shows the following estimates for unit sales for the third quarter of its upcoming fiscal year:

	July	August	September	Quarter
Units sold	5,000	4,000	3,500	12,500

The company requires finished goods inventory on hand equal to 30% of the next month's expected sales.

The company expects to begin July with 1,500 units in inventory. The expected unit sales for October are 3,800.

Required:

Prepare a production budget for the quarter.

Members Video:

https://youtu.be/A6uT1y0_wDw

8-3A – Materials Purchases Budget

Sheng Company manufactures faux-leather bags. Each bag takes 0.5 yards of material. The material costs $5 per yard. The company had 1,500 yards of material on hand at the beginning of January and required enough ending monthly materials to be on hand to meet 10% of the following month's production requirements.

The company's production budget follows:

	January	February	March	Quarter
Required Production	30,000	35,000	38,000	103,000

The company expects to produce 40,000 units in April.

Required:

Prepare a materials purchases budget for the quarter. Provide both the number of yards, and dollar value of inventory to be purchased.

Free/Open Video:

https://youtu.be/2A9jrAst0ac

8-3B – Materials Purchases Budget

Brown Company manufactures wood tables. Each table requires 15 board-feet of wood. Wood costs $6 per board foot. The company had 2,000 board feet wood on hand at the beginning of July and required enough wood inventory to be on hand to meet 20% of the following month's production requirements.

	July	August	September	Quarter
Required Production	5,000	7,000	10,000	22,000

The company expects to produce 8,000 units in October.

Required:

Prepare a materials purchases budget for the quarter. Provide both the number of board feet, and dollar value of inventory to be purchased.

Members Video:

https://youtu.be/H1JTqeqJUDo

8-4A – Direct Labour Budget

McCluskey Company's production requirements are as follows:

	January	February	March	Quarter
Units to be produced	5,000	6,000	7,000	18,000

Each unit requires two direct labour hours to produce and workers are paid $15.00 per hour.

Required

a.) Assuming a completely flexible labour force, prepare the company's direct labour budget for the quarter.

b.) Refer to the original data. Assume the company has permanent employees who are guaranteed to be paid for at least 11,500 hours of work per month. If production requires less than 11,500 hours, they will be paid for 11,500 hours anyway. Any amount of work above 11,500 hours will be paid at 1.5 times their normal hourly rate.

Free/Open Video:

https://youtu.be/NHaEwLypWVw

8-4B – Direct Labour Budget

McFarlane Company's production requirements are as follows:

	April	May	June	Quarter
Units to be produced	12,000	20,000	18,000	50,000

Each unit requires 1.5 direct labour hours to produce and workers are paid $10.00 per hour.

Required

a.) Assuming a completely flexible labour force, prepare the company's direct labour budget for the quarter.

b.) Refer to the original data. Assume the company has permanent employees who are guaranteed to be paid for at least 25,000 hours of work per month. If production requires less than 25,000 hours, they will be paid for 25,000 hours anyway. Any amount of work above 25,000 hours will be paid at 1.5 times their normal hourly rate.

Members Video:

https://youtu.be/a7gMVMcxcjk

8-5A – Manufacturing Overhead Budget

Plural Inc. budgets direct labour hours for the first quarter as follows:

	January	February	March	Quarter
Direct labour hours	75,000	80,000	95,000	250,000

The company's variable overhead rate is $10 per direct labour hour. The company's fixed overhead is $100,000 per month – this number includes monthly depreciation of $25,000.

Required
Prepare the company's manufacturing overhead budget for the quarter.

Free/Open Video:

https://youtu.be/EsmWj1-aMtM

8-5B – Manufacturing Overhead Budget

Singular Company budgets machine hours for the first quarter as follows:

	October	November	December	Quarter
Machine hours	200	160	180	540

The company's variable overhead rate is $5 per machine hour. The company's fixed overhead is $2,000 per month – this number includes monthly depreciation of $500.

Required
Prepare the company's manufacturing overhead budget for the quarter.

Members Video:

https://youtu.be/IY2DqSLMDMA

8-6A – Selling and Administrative Expenses Budget

The budgeted unit sales for Jana Corporation for the upcoming quarter are as follows:

	July	August	September	Quarter
Units sold	30,000	25,000	22,000	77,000

The company's variable expenses include:

Shipping expenses: $2.00 per unit
Sales commissions: $5.00 per unit
Other expenses: $6.00 per unit

The company's fixed expenses are:
Advertising: $75,000 per month
Executive salaries: $90,000 per month
Depreciation: $20,000 per month

Also, executive bonus payments of $25,000 will be made in the July and September, and a major building repair of $35,000 will be paid in August.

Required:

Prepare the company's selling and administrative budget for the upcoming quarter.
Disclose both total selling and administrative expenses and cash disbursements for selling and administrative expenses.

Free/Open Video:

https://youtu.be/CEEyM0y4-pE

8-6B – Selling and Administrative Expenses Budget

The budgeted unit sales for Chris Corporation for the upcoming quarter are as follows:

	April	May	June	Quarter
Units sold	10,000	15,000	25,000	50,000

The company's variable expenses include:

Wages:	$4.00 per unit
Sales commissions:	$1.00 per unit
Other expenses:	$3.00 per unit

The company's fixed expenses are:

Rent:	$15,000 per month
Salaries:	$35,000 per month
Depreciation:	$10,000 per month

Also, the company expects to pay accounting fees of $12,000 at the end of April, and employee bonuses of $30,000 will be paid in June.

Required:

Prepare the company's selling and administrative budget for the upcoming quarter.
Disclose both total selling and administrative expenses and cash disbursements for selling and administrative expenses.

Members Video:

https://youtu.be/0NvEZSHVhfQ

8-7A – Cash Budget

Cookie Crunchers had the following estimated cash flows for the first quarter:

	January	February	March	Quarter
Cash receipts	$50,000	$140,000	$90,000	$280,000
Cash disbursements	80,000	90,000	100,000	270,000

The company begins the year with $20,000 in cash and requires a minimum cash balance of $10,000. The company may borrow any amount from a local bank at an annual interest rate of 6%, The borrowing must occur at the beginning of any month and all repayments must be made at the end of any month. Interest must be repaid at the time of loan repayment.

Required:

In good form, prepare the company's cash budget for the upcoming year.

Free/Open Video:

https://youtu.be/DSpRc5DV7bM

8-7B – Cash Budget

Corrugated Box Company had the following estimated cash flows for the third quarter:

	August	September	October	Quarter
Cash receipts	$900,000	$1,000,000	$1,300,000	$3,200,000
Cash disbursements	1,100,000	1,000,000	1,000,000	3,100,000

The company begins the year with $100,000 in cash and requires a minimum cash balance of $25,000. The company may borrow any amount from a local bank at an annual interest rate of 3%, The borrowing must occur at the beginning of any month and all repayments must be made at the end of any month. Interest must be repaid at the time of loan repayment.

Required:

In good form, prepare the company's cash budget for the upcoming year.

Members Video:

https://youtu.be/zV3n_9zHTAI

8-8A –Cash Budget, Income Statement, Balance Sheet

Mullins Company manufactures didgeridoos. The company's June 30 balance sheet follows:

Mullins Company Balance Sheet June 30	
ASSETS	
Cash	$ 20,000
Accounts receivable, net	30,000
Inventory	50,000
Property, plant and equipment, net	150,000
Total assets	$ 250,000
LIABILITIES AND SHAREHOLDERS' EQUITY	
Accounts payable, net	$ 50,000
Bank loan payable	20,000
Common shares	140,000
Retained earnings	40,000
Total liabilities and shareholders' equity	$ 250,000

The company shows the following budget items for July:

a.) Sales are expected to be $100,000 in July. 60% are expected to be collected in July, 40% will be collected in August.
b.) The full $30,000 of accounts receivable on the June 30 balance sheet (above) is expected to be collected in July.
c.) Cost of goods sold is expected to be 45% of sales.
d.) The company plans to purchase $50,000 in inventory during July. The company's purchases are all on account. Of the company's purchases, 20% are paid in the month of the purchase, and 80% are paid in the following month.
e.) The full $50,000 of accounts payable on the June 30 balance sheet (above) is expected to be paid off in July.
f.) The company's operating expenses are expected to be $40,000 including depreciation of $1,000. All operating expenses except depreciation are cash expenses.
g.) The company's bank loan will be paid in full with $200 interest. The company paid its interest costs monthly, and the $200 interest payment represents interest from July.
h.) New equipment costing $15,000 will be purchased using cash.
i.) The company wishes to keep a minimum cash balance of $10,000 and has access to borrow up to $100,000 from a local bank – any borrowing will occur at the end of the month at an annual interest rate of 12%.

Required:

a.) Compute the expected cash collections for July.
b.) Compute the expected cash disbursements for July.
c.) Based on your answers for part a.) and b.), prepare a cash budget for July.
d.) Prepare a budgeted income statement for July.
e.) Prepare a balance sheet dated July 31.

Members Video:

Part 1: https://youtu.be/vAjZt8G3lX0
Part 2: https://youtu.be/7Tj3cj4Fqts

8-8B –Cash Budget, Income Statement, Balance Sheet

Noskova Company manufactures boomerangs. The company's September 30 balance sheet follows:

Noskova Company Balance Sheet September 30	
ASSETS	
Cash	$ 50,000
Accounts receivable, net	125,000
Inventory	225,000
Property, plant and equipment, net	500,000
Total assets	$ 900,000
LIABILITIES AND SHAREHOLDERS' EQUITY	
Accounts payable, net	$ 200,000
Bank loan payable	250,000
Common shares	50,000
Retained earnings	400,000
Total liabilities and shareholders' equity	$ 900,000

The company shows the following budget items for October:

a.) Sales are expected to be $600,000 in October. 70% are expected to be collected in October, 30% will be collected in November.
b.) The full $125,000 of accounts receivable on the September 30 balance sheet (above) is expected to be collected in October.
c.) Cost of goods sold is expected to be 40% of sales.
d.) The company plans to purchase $300,000 in inventory during October. The company's purchases are all on account. Of the company's purchases, 25% are paid in the month of the purchase, and 75% are paid in the following month.
e.) The full $200,000 of accounts payable on the September 30 balance sheet (above) is expected to be paid off in October.
f.) The company's operating expenses are expected to be $250,000 including depreciation of $20,000. All operating expenses except depreciation are cash expenses.
g.) The company's bank loan will be paid in full with $2,000 interest. The company paid its interest costs monthly, and the $2,000 interest payment represents interest from October.
h.) New equipment costing $50,000 will be purchased for cash.
i.) The company wishes to keep a minimum cash balance of $20,000 and has access to borrow up to $500,000 from a local bank – any borrowing will occur at the end of the month at an annual interest rate of 6%.

Required:

a.) Compute the expected cash collections for October.
b.) Compute the expected cash disbursements for October.
c.) Based on your answers for part a.) and b.), prepare a cash budget for October.
d.) Prepare a budgeted income statement for October.
e.) Prepare a balance sheet dated October 31.

Members Video:

Part 1: https://youtu.be/gRed1sXu0BY

Part 2: https://youtu.be/M6tINhGiOLU

Module 9: Standard Costs and Variance Analysis

Module Intro Video:

https://youtu.be/PXYChrEJG9Q

9-1A Direct Materials Variances

Steve's Sausages begins business in March. In planning his business, Steve sets the following materials standard: Each sausage should take 250 grams of pork, and pork should cost $10 per kilogram, therefore each sausage should contain $2.50 of direct material.

In March, Steve purchases 80 kilograms of pork for $750. Steve makes and sells 300 sausages and has 2 kilograms of pork remaining on hand at the end of the month.

Required:

Compute the company's direct materials price and quantity variances.

Free/Open Video:

https://youtu.be/oYHMwGsc9_A

9-1B Direct Materials Variances

Relief Inc. manufactures portable toilets for use on construction sites. Each toilet requires 40 kilograms of plastic and plastic is estimated to cost $5 per kilogram.

At the beginning of June, the company had no plastic inventory on hand. During the month, the company purchased 4,500 kilograms of plastic for $24,000. The company produced 100 toilets during the month and had 300 kilograms of plastic on hand at the end of the month.

Required:

Compute the company's direct materials price and quantity variances.

Members Video:

https://youtu.be/PhIUF7wk2Yo

9-2A Direct Labour Variances

Frank's Bikes makes fixed gear bicycles. The company set the following standards related to labour: Each bike should take four direct labour hours to manufacture at a cost of $15 per hour.

For August, the company produced 160 bicycles and employees worked 700 direct labour hours. The company's total labour cost for the month was $10,000.

Required:

Compute the company's direct labour rate and efficiency variances.

Free/Open Video:

https://youtu.be/RvEac2n0s7A

9-2B Direct Labour Variances

Chi Hou's Noodles makes noodles by hand and supplies local Chinese restaurants. The company has the following standards for direct labour: Staff should be able to make 10 kilograms per hour and the labour wage rate is $9 per hour.

For September, the company produced 15,000 kilograms of noodles. The direct labour workforce worked for 1,400 hours and the labour cost for the month was $13,600.

Required:

Compute the company's direct labour rate and efficiency variances.

Members Video:

https://youtu.be/tdZJ4c0DGBo

9-3A Variable Overhead Variances

Widgets R Us applies variable overhead costs to jobs based on machine hours. The company's predetermined variable overhead rate is $6 per machine hour, and it is estimated that each machine can produce 2 widgets per hour.

For January, the company produced 600 widgets and machines were active for 320 machine hours. The company's total variable manufacturing overhead cost for the month was $1,400.

Required:

Compute the company's variable manufacturing overhead spending and efficiency variances.

Free/Open Video:

https://youtu.be/Gdob2D1Oi-s

9-3B Variable Overhead Variances

Batter Up produces small baseball bats for young baseball players. The company applies variable overhead costs to jobs based on machine hours. The company's predetermined variable overhead rate is $15 per machine hour, and it is estimated that the company's lone machine can produce 10 bats per hour.

For June, the company produced 2000 bats and the machine was active for 180 machine hours. The company's variable manufacturing overhead cost for the month was $2,500.

Required:

Compute the company's variable manufacturing overhead spending and efficiency variances.

Members Video:

https://youtu.be/Ng9cKSUjZtk

9-4A Fixed Overhead Variances

XYZ Company manufactures tables. The company budgets fixed overhead to be $10,000 for the month of August. The company applies overhead costs to jobs on the basis of direct labour hours. The company has the following direct labour standards: It expects each table will take two hours to make, and the company anticipates making 1,000 tables (direct labour workers are budgeted to work for 2,000 hours during the month).

During August, the company produced 1,200 tables and workers worked a total of 2,200 hours. Actual fixed overhead incurred for August was $10,500.

Required:

Compute the company's fixed manufacturing overhead spending and volume variances.

Free/Open Video:

https://youtu.be/sPmaXgxDqGg

9-4B Fixed Overhead Variances

ABC Company manufactures chairs. The company budgets fixed overhead to be $25,000 for the month of August. The company applies overhead costs to jobs on the basis of direct labour hours. The company has the following direct labour standards: It expects each chair takes four hours to make, and the company anticipates making 800 chairs (direct labour workers are budgeted to work for 3,200 hours during the month).

During August, the company produced 700 chairs and workers worked a total of 3,000 hours. Actual fixed overhead incurred for August was $23,500.

Required:

Compute the company's fixed manufacturing overhead spending and volume variances.

Members Video:

https://youtu.be/Mxas_XaEbTs

9-5A Comprehensive Variance Analysis Problem

Chemco produces chemicals for cleaning pools. It sells the chemicals (a powder) in four-kilogram buckets. The company's standard costs per unit follow:

	Quantity	Cost	Total
Direct materials	5 kilograms	$4.00 per kg	$20.00
Direct labour	0.25 hours	$10 per DL hour	2.50
Manufacturing overhead	0.25 hours	$8 per DL hour	2.00
			$24.50

During the month, the company produced 1,000 buckets of chemicals. The following information is known:

1.) The company purchased 5,500 kilograms of direct material at a cost of $21,450.
2.) The company had no beginning inventory, and had 700 kilograms of material on hand at the end of the year.
3.) The direct labour workforce worked a total of 220 hours and was paid a total of $2,640.
4.) Variable overhead of $1,050 and fixed overhead of $800 were incurred.

The manufacturing overhead rate of $8 per direct labour hour can be further broken down. The company estimates variable overhead to be $5 per direct labour hour. The company expected to produce 1,100 buckets using 275 direct-labour hours during the month, and based on those estimates, variable overhead was budgeted to be $1,375 for the month. Fixed overhead was budgeted to be $825 for the month.

Required:

Compute:

a.) Direct Materials price and quantity variances.
    i. The company recently entered into a contract with a new supplier who is eager for their business. Should the company continue to work with this new supplier, or should they look for a new one.
b.) Direct Labour rate and efficiency variances.
    i. The company experimented using more senior staff and fewer junior employees this month. Was the experiment successful?
c.) Variable Overhead spending and efficiency variances.
d.) Fixed Overhead spending and volume variances.

Free/Open Video:
https://youtu.be/plAxNuBdO-c

9-5B Comprehensive Variance Analysis Problem

Smithco produces a plastic furniture set for outdoor use. The company's standard costs per set follow:

	Quantity	Cost	Total
Direct materials	10 kilograms	$6.00 per kg	$60.00
Direct labour	2 hours	$15 per DL hour	30.00
Manufacturing overhead	2 hours	$5 per DL hour	10.00
			$100.00

During the month, the company produced 200 furniture sets. The following information is known:

1.) The company purchased 2,300 kilograms of direct material at a cost of $13,000.
2.) The company had no beginning inventory and had 50 kilograms of material on hand at the end of the year.
3.) The direct labour workforce worked a total of 420 hours and was paid a total of $5,800.
4.) Variable overhead of $1,555 and fixed overhead of $600 were incurred.

The manufacturing overhead rate of $5 per direct labour hour can be further broken down. The company estimates variable overhead to be $3.75 per direct labour hour. The company planned to make 180 furniture sets during the month and budgeted to use 360 direct labour hours. Accordingly, the company's variable overhead was budgeted to be $1,350 for the month. Fixed overhead was budgeted to be $450 for the month.

Required:

Compute:

a.) Direct Materials price and quantity variances.
    i. The company recently entered into a contract with a new supplier who is eager for their business. Should the company continue to work with this new supplier, or should they look for a new one.
b.) Direct Labour rate and efficiency variances.
    i. The company experimented using more junior staff and fewer senior employees this month. Was the experiment successful?
c.) Variable Overhead spending and efficiency variances.
d.) Fixed Overhead spending and volume variances.

Members Video:
https://youtu.be/7Re4XpjG02o

Flexible Budgets Intro Video: https://youtu.be/NZPElqTLm8o

9-6A Flexible Budget

The Greatest Friends is a dog rescue group that specializes in finding homes for the Great Dane breed. The company produces the following cost report for June.

The Greatest Friends
Cost Variance Report
For the Month Ended June 30

	Budget	Actual	Variance
Number of dogs in care	10	4	6 U
Variable costs			
Grooming	$2,000	$1,300	$700 F
Dog food	10,000	6,500	3,500 F
Cleaning supplies	500	400	100 F
Total variable costs	12,500	8,200	4,300 F
Fixed costs			
Salaries	1,500	1,600	100 U
Property taxes	400	400	-
Total fixed costs	1,900	2,000	100 U
Total costs	$14,400	$10,200	$4,200 F

Valerie Pringle, the manager of the rescue group comments on the report: "I'm certainly proud of this cost report, it shows that I'm not only doing a great job caring for the animals in our care, I'm also keeping costs under control".

Required:

a.) Comment on the major flaw in the report above.
b.) Prepare a revised report using a flexible budget.
c.) Comment on Pringle's assertion that she is doing a "great job" keeping costs under control.

Free/Open Video:

https://youtu.be/jJQhKe9Dfj0

9-6B Flexible Budget

Refined Touch is a dating service. Rather than using algorithms, the company uses a traditional matchmaker. The company had the following income statement for April:

Refined Touch
Income Statement (Actual vs Budget)
For the Month Ended April 30

	Budget	Actual	Variance
Number of matches	120	150	30 F
Revenues	$12,000	$14,500	$2,500 F
Variable costs			
Matching	$3,000	$3,600	$600 U
Customer screening	2,400	1,500	900 F
Payment processing	1,200	1,450	250 U
Total variable costs	6,600	6,550	50 F
Fixed costs			
Office expenses	2,000	1,800	200 F
Rent expense	900	950	50 U
Total fixed costs	2,900	2,750	150 F
Total costs	9,500	9,300	200 F
Net income	$2,500	$5,200	$2,700 F

Linda Frost, the manager and matchmaker comments on the report: "What a great month. We were busier than we expected to be and we still managed to keep costs down – I just wish every month could be this good".

Required:

a.) Comment on the major flaw in the report above.
b.) Prepare a revised report using a flexible budget.
c.) Comment on Frost's assertion that it was a "great month".
d.) Which variance(s) ought to be investigated further?

Members Video:

https://youtu.be/pD4QKli1VnE

Module 10: Capital Budgeting

Module Intro Video:

https://youtu.be/c_klanxTksI

10-1A – Payback Period, Net Present Value and Internal Rate of Return

Grey Animations is considering replacing its current network of computers with newer, faster, more efficient models. It purchased its current computers three years ago for $100,000 and at that time the company expected the computers to last for five years with a residual value of $10,000. If the computers were sold today, they would fetch $35,000.

New computers could be purchased today for $150,000 and would have an expected life of five years. Over the five-year life, the computers would reduce operating expenses by an estimated $40,000 per year for the first three years, and by $20,000 in the last two years. The estimate residual value of the new computers is $12,000. The project's cost of capital is 12%.

a.) Calculate the project's cash payback period.
b.) Calculate the project's net present value.
c.) Calculate the internal rate of return of the project.

Free/Open Video:

https://youtu.be/XiJ2pSZRCoY

10-1B – Payback Period, Net Present Value and Internal Rate of Return
Barry Cabs is a sole proprietorship that owns and operates one taxicab. The company purchased its cab 5 years ago for $40,000. When it purchased the cab, it expected it to be useful for 8 years with a residual value of $5,000. Barry thinks he could sell the cab today for $14,000.

Barry is considering replacing the old cab with a new, all-electric taxi. The all-electric car would cost $60,000 and would have an expected useful life of 8 years. Over its 8-year life, the cab would reduce annual operating costs (mostly gas and maintenance) by $8,000 per year for the first 6 years, and $10,000 per year thereafter. After 8 years, it is expected the taxi would have a $2,000 residual value. Barry's cost of borrowing is 15%.

a.) Calculate the project's cash payback period.
b.) Calculate the project's net present value.
c.) Calculate the internal rate of return of the project.

Members Video:
https://youtu.be/GdOkf16XUiU

Module 11: Performance Measurement: ROI, Residual Income and the Balanced Scorecard

Module Intro Video:

https://youtu.be/06X2uOnY0zw

11-1A – Computing ROI and Residual Income

The CEO of Grace Company, Nicole Grace is debating an investment. The investment is projected to earn $20,000 annually and will require the company to acquire $100,000 in assets. The following chart summarizes Grace's decision:

	Before Investment	After Investment
Operating income	75,000	95,000
Average operating assets	300,000	400,000

Required:

a.) Assume Grace is evaluated based on growth in the company's ROI. Compute the Return on Investment for the company before and after the investment. Would you recommend Grace make the investment?

b.) Assume Grace is evaluated based on growth in the company's residual income. The company's required rate of return is 15%. Compute the company's residual income before and after the investment. Would you recommend Grace make the investment?

c.) Give at least one advantage and one disadvantage of using measures like ROI and residual income to evaluate company performance.

Free/Open Video:

https://youtu.be/UsEM34LEcWk

11-1B – Computing ROI and Residual Income

The CFO of Gentry Autogroup, Allison Gentry is debating an investment. The investment is projected to earn $100,000 annually and will require the company to acquire $600,000 in assets. The following chart summarizes Gentry's decision:

	Before Investment	After Investment
Operating income	600,000	700,000
Average operating assets	3,000,000	3,600,000

Required:

a.) Assume Gentry is evaluated based on growth in the company's ROI. Compute the Return on Investment for the company before and after the investment. Would you recommend Gentry make the investment?

b.) Assume Gentry is evaluated based on growth in the company's residual income. The company's required rate of return is 15%. Compute the company's residual income before and after the investment. Would you recommend Gentry make the investment?

c.) Give at least one advantage and one disadvantage of using measures like ROI and residual income to evaluate company performance.

Members Video:
https://youtu.be/CiM-1Cc9WxI

11-2A – Balanced Scorecard

For each of the balanced scorecard targets listed below, identify the matching perspective: Organizational learning and growth (L), Internal business processes (I), Customer (C), Financial(F).

a.) Product returns as a percentage of sales decreases by 5%.

b.) Employee satisfaction score above 4/5.

c.) Number of complaints reduced below 10 per week.

c.) Percentage of products with defects below 1%

d.) Over 90% of employees participate in new service training session.

e.) Share price increases by $5.

f.) Sales grow by 15%.

g.) Setup time reduced by 20%.

Free/Open Video:

https://youtu.be/uCLRJtTPWmQ

11-2B – Balanced Scorecard

For each of the balanced scorecard targets listed below, identify the matching perspective: Organizational learning and growth (L), Internal business processes (I), Customer (C), Financial(F).

a.) Customer satisfaction survey improves to 4.5/5

b.) Profit grows by 25%.

c.) Customer hold time average below 2 minutes.

d.) Percentage of on time delivery over 95%

e.) Employee turnover of below 20%.

f.) Customer retention is held above 70%

g.) Average employee training hours of over 20 per year.

h.) Return on investment increases by 10%.

Members Video:
https://youtu.be/2Z_YJw1f3D0

Transfer Pricing Intro Video: https://youtu.be/7RsQcS2frME

11-3A – Transfer Pricing

PhonyTel Inc. was a massive media company that controlled a cable company, a 4G wireless data network, and several other related businesses. PhonyTel Inc. was a highly decentralized organization, where managers were encouraged to make decisions that were most profitable for their own divisions. One of PhonyTel Inc's subsidiary businesses was PhonyTel Data (PD), an installer of data servers. PhonyTel Data's manager, Steve Frost, had a large job that would require the installation of two thousand servers. The request received 3 bids: One from PhonyTel Networking (PN), a subsidiary of PhonyTel Inc.; one from Little Guys Data (LGD); and one from Big Name Competitor (BNC). Details of the bids are below:

Company	Bid (Per server)	Notes
PhonyTel Networking	$1,800	• The company would purchase the processors from PhonyTel Chips (a subsidiary of PhonyTel Inc.) • The final product would be of a very high quality
Little Guys Data	$1,600	• The company would purchase the processors from PhonyTel Chips (a subsidiary of PhonyTel Inc.) • The final product would be of equal quality to that produced by PhonyTel Networking
Big Name Competitor	$1,550	• The company would manufacture its own parts, • The final product would be of equal quality to that produced by PhonyTel Networking

Frost was frustrated by the bids, and phoned Kianna Chang, the manager of PhonyTel Networking, "How on earth is it that the only internal bid is by far the highest! You're not anywhere near capacity, shouldn't you be cutting me a deal? You've got to drop below $1,550 or I'll buy from BNC."

Chang replied, "Look, I understand where you're coming from, but I have margins to protect, I simply can't offer you a better deal. The bosses are stressing a focus on higher margins and higher average selling-prices, I can't tell all my salespeople to pitch the high-end, only to kill the firm's just to make you guys look good."

Frustrated, Frost called Teegan Bertuzzi, the CFO of the parent company. "I'll have a look at the issue", said Bertuzzi, and she noted the following details:

- PhonyTel Data would incur $300 in variable costs on top of its purchase price, and sell the installation for $2,400 per server.
- PhonyTel Networking's variable costs would be $1,400, and included the cost of the processors purchased from PhonyTel Chips.
- PhonyTel Chips sold this type of processor for $500. Their contribution margins were typically 20%.
- PhonyTel Chips had excess capacity.

Required:

a.) Give the dollar advantage or disadvantage of accepting each deal (for the parent company, PhonyTel Inc.)
b.) What are Teegan Bertuzzi's options? What should she do?

Free/Open Video:
https://youtu.be/7ZnT-CnArNc

Module 12: Relevant Costs for Decision Making

Module Intro Video:

https://youtu.be/Mqwx7ASaZ5E

12-1A - Make or Buy

Carol's Cupcakes sells cupcakes and other desserts through its retail store. The company has always made all of its ingredients from scratch, but has recently been approached by a supplier that specializes in icing. Carol believes that the supplier's icing is of equal quality to her own, and believes their offer of $3.00 per liter may enable her to save money. Carol is evaluating her own cost of producing icing:

	Per Liter	5,000 liters per year
Direct materials	$1.00	$5,000
Direct labour	0.50	2,500
Variable manufacturing overhead	0.25	1,250
Fixed manufacturing overhead – traceable*	1.00	5,000
Fixed manufacturing overhead - allocated	1.75	8,750
Total	$4.50	$22,500

*40% relates to cleaning and maintenance of the icing equipment and 60% relates to depreciation of icing equipment (with no resale value)

Examining the report, Carol says, "Their icing is just as good, and it would save me $1.50 per liter, that's over $7,500 for the year. I think I'm going to take the deal."

Required

a.) Assuming there is no other use for the icing equipment or the space it uses in the kitchen, what is the net dollar advantage or disadvantage of accepting the supplier's offer?

b.) If the offer is accepted, Carol's Cupcakes could use the space that had been previously used for making icing as a bacon-frying space. Carol believes that a new bacon line of cupcakes would produce margins of $5,000 per year. Should Carol's Cupcakes accept the supplier's offer?

Free/Open Video:
https://youtu.be/b8Oxfhy9D1Y

12-1B - Make or Buy

Howard Grills makes high-end barbecues. The company has recently been approached by a supplier who has offered to provide the company igniters (the barbecue part that provides a spark to start the flame). The company has offered a price of $5.00 per igniter. Howard's internal costs of producing the igniter follow:

	Per Igniter	30,000 igniters per year
Direct materials	$1.25	$37,500
Direct labour	0.25	7,500
Variable manufacturing overhead	0.50	15,000
Fixed manufacturing overhead – traceable*	3.00	90,000
Fixed manufacturing overhead – allocated	1.50	45,000
Total	$6.50	$195,000

*2/3 relate to equipment maintenance and 1/3 relate to depreciation of specialized equipment (no resale value).

Gloria Howard, the owner and CEO of Howard Grills notes: "To make 30,000 igniters costs us $195,000, their starters are just as good and buying from them will only cost us $150,000, I'm no accountant, but it seems obvious we should take this deal."

Required

a.) Assuming there is no other use for the space used to make the starters, what is the net dollar advantage or disadvantage of accepting the supplier's offer?

b.) If the offer is accepted, the company could use the space to develop a new product line that would generate estimated margins of $25,000. Should the company accept the supplier's offer?

Members Video:
https://youtu.be/42q4QwqvbRA

12-2A – Drop or Retain a Segment

All-Mart is a department store with three major departments: Housewares, Hardware, and Electronics. Company management is very concerned about the performance of the electronics department, noting that it seems to be a drag on the company based on its most recent fiscal quarter. A company-wide segmented income statement follows:

	Housewares	Hardware	Electronics	Total
Sales	$150,000	$220,000	$200,000	$570,000
Variable expenses	60,000	100,000	140,000	300,000
Contribution margin	90,000	120,000	60,000	270,000
Fixed expenses	50,000	100,000	90,000	240,000
Operating income (loss)	$40,000	$20,000	$(30,000)	$30,000

The company notes that if the electronics department were dropped, the other departments could expect a 10% decrease in foot traffic and sales. Also, $20,000 of the electronics department's fixed costs are allocated and would continue even if the department was dropped. The company has no planned use for the space currently used by the electronics department.

Required

Compute the net dollar advantage or disadvantage of dropping the electronics department.

Free/Open Video:

https://youtu.be/O7--EVryiKc

12-2B – Drop or Retain a Segment

Fresh Juice has three locations in Kamloops: Downtown, North Shore and Dufferin. Management is concerned about the performance of the downtown location; the rent is high and management is debating closing the store. A company-wide segmented income statement follows:

	Downtown	North Shore	Dufferin	Total
Sales	$300,000	$350,000	$250,000	$900,000
Variable expenses	210,000	225,000	175,000	610,000
Contribution margin	90,000	125,000	75,000	290,000
Fixed expenses	150,000	75,000	40,000	265,000
Operating income (loss)	$(60,000)	$50,000	$35,000	$25,000

An analysis of expenses reveals that $40,000 of the downtown location's fixed expenses are allocated costs that would continue even if the store was closed. The North Shore and Dufferin locations could expect a 5% decrease in revenues due to lost promotional synergies closing the prominent downtown location.

Required

Compute the net dollar advantage or disadvantage of dropping the downtown location.

Members Video:

https://youtu.be/1JVGaBz9vXE

12-3A – Special Order

Duty Gear manufactures and sells high-quality gear for firefighters. Operating at capacity, the company can produce and sell up to 10,000 uniforms per year. Costs associated with this level of production and sales are as follows:

	Per unit	At Capacity (10,000 units)
Direct materials	$800	$8,000,000
Direct labour	500	5,000,000
Variable manufacturing overhead	700	7,000,000
Fixed manufacturing overhead	1,000	10,000,000
Total costs	$3,000	$30,000,000

The firefighter gear normally sells for $5,000 per unit. Despite this high price, the company regularly expects to sell 8,000 units in the upcoming year. Fixed overhead is constant at $10,000,000 between 6,000 and 10,000 units.

A filmmaker wishes to purchase 250 authentic firefighting uniforms from the company. The company's regular price is $5,000, but the filmmaker would like volume discount and asks the company to reduce its price to $3,000 for this large purchase. Accepting this deal would not affect the company's normal business. To fill the order, the company would have to purchase a machine to provide a special rubber coating each unit of fire gear. The machine would cost $100,000 and would have no use outside of the order. The additional rubber coating would add a cost of $50 per unit.

Required

Determine the net dollar advantage or disadvantage of accepting the order.

Members Video:

https://youtu.be/5IfXt0eRegA

12-3B – Special Order

Eversharp is a knife manufacturer. The company normally sells 5,000 sets of high-quality knives each year and, with its current staff and machinery, has the capacity to produce up to 6,000 sets of knives. At this level of output, the company estimates its costs of producing and selling one set of knives as follows:

	Per unit
Direct materials	$5.00
Direct labour	1.50
Variable manufacturing overhead	1.00
Fixed manufacturing overhead	2.00
Sales commissions	1.50
Fixed selling and administrative expenses	4.00
Total costs	$15.00

The company's selling price is $20 per unit. An order has been received for 500 units, but because it's a bulk purchase, the buyer has requested a 40% price discount. If the order were accepted it would not affect the company's regular sales. There would be no sales commissions on this deal, and fixed costs would not be affected. The purchasing company would like their logo engraved into the handle of each knife, which would increase labour costs by $0.25 per unit and require the purchase of a new machine for $2,000.

Required

a.) Determine the net dollar advantage or disadvantage of accepting the order.

b.) Separate from a.), assume the company finds a box from 1994 containing 1,000 old steak knives, although styles have changed, the knives are still of a reasonably good quality and sharpness. Assuming manufacturing cost data was similar in 1994 to the chart above, what is the minimum selling price that should be accepted?

Members Video:

https://youtu.be/tEYlNMJfz0k

12-4A – Sell or Process Further

Peter's Grocery is an Italian market that sells imported meats and cheeses. The company is thinking of using a portion of their store space to sell ready-made sandwiches with ingredients from the store. As an experiment, Peter plans to make and sell one dozen (12) sandwiches per day for the next 5 days to see if it will be worthwhile.

The main components of the sandwiches are 100 grams of salami (meat), 1 slice of provolone (cheese) and one bun. The salami sells for $2 per 100 grams and costs the company $0.75 per 100 grams. Provolone sells for $0.50 per slice and costs the store $0.35 per slice. The buns cost the company $2.40 per dozen to make, and sell for $4.80 per dozen. The company expects it can sell the sandwiches for $4 each. The labour costs associated with making a sandwich are $0.25 and the variable overhead is expected to cost $0.75 per sandwich.

Required

a.) Determine the net dollar advantage or disadvantage of selling the sandwich as compared to selling the meat, cheese and bun separately.

b.) What qualitative considerations should Peter be giving to this decision?

Members Video:

https://youtu.be/SANr1LbnmWo

12-4B – Sell or Process Further

U-Junk Auto is a car lot that has just received a 1991 Toyota Tercel that is barely in running condition. The company paid $400 for the car has already received an offer to be sold (as is) for $600. The shop's mechanic does not wish to sell the car as is, he believes that the company should replace the damaged parts at a cost of $200 and have him repair the car. It would take him 30 hours of work at $20 per hour. The company applies variable overhead costs to jobs at a rate of $10 per direct labour hour. If the upgrades are made, the car could be sold for $1,500.

Required

a.) Determine the net dollar advantage or disadvantage of selling the car now instead of repairing it.

b.) What are key qualitative decisions in making this decision?

Members Video:

https://youtu.be/0QV_mXdus7s

12-5A – Constrained Resource

Wondrous Aromas Company has three lines of perfume: Red, Green, and Blue. After mega-celebrity Caitlyn Spencer tweeted that this was her favourite line of perfume, demand for all three products has been off the charts. The company has a problem, it has a limited supply of orchid nectar, a common ingredient in all three products. Orchid nectar costs $5 per gram and is the major selling feature of all three perfumes. Cost data follow:

	Red	Green	Blue
Price	$200	$160	$80
Variable expenses			
Orchid nectar	50	30	20
Other direct materials	15	25	15
Direct labour	20	25	10
Variable manufacturing overhead	15	10	10
Total variable cost	100	90	55
Contribution margin	$100	$70	$25

Required

a.) Which product would you recommend the company focus on producing first? Second? Third?

b.) A supplier emerges willing to provide the company with more orchid nectar, but for a major premium. What is the maximum the company should be willing to pay per gram of orchid nectar as long as there is unfilled demand for all three perfumes?

Free/Open Video:

https://youtu.be/IEPsbiQwDjo

12-5B – Constrained Resource

Anthony Bertuzzi is a very busy man. He runs an event planning business that organizes weddings, birthday parties, and corporate events. Anthony's business is so busy that he has recently started turning away customers. Anthony tried to bring in a partner, but customers wanted Anthony's magic touch. Anthony enjoys all three types of events - wedding, birthday parties, and corporate events - equally, and would like your help in determining which events he should prioritize. Although all events are different, he has laid out the following information about "typical" events of each type:

	Weddings	Birthday Parties	Corporate Events
Price	$10,000	$2,000	$5,000
Variable expenses	6,000	1,000	2,000
Contribution margin	$4,000	$1,000	$3,000

Typically, weddings take 40 planning hours, birthday parties take 15 planning hours and Corporate Events take 20 planning hours.

Required

Which event requests should Anthony take first? Second? Third? (Explain your answer.)

Members Video:

https://youtu.be/it_VY8dS4m4