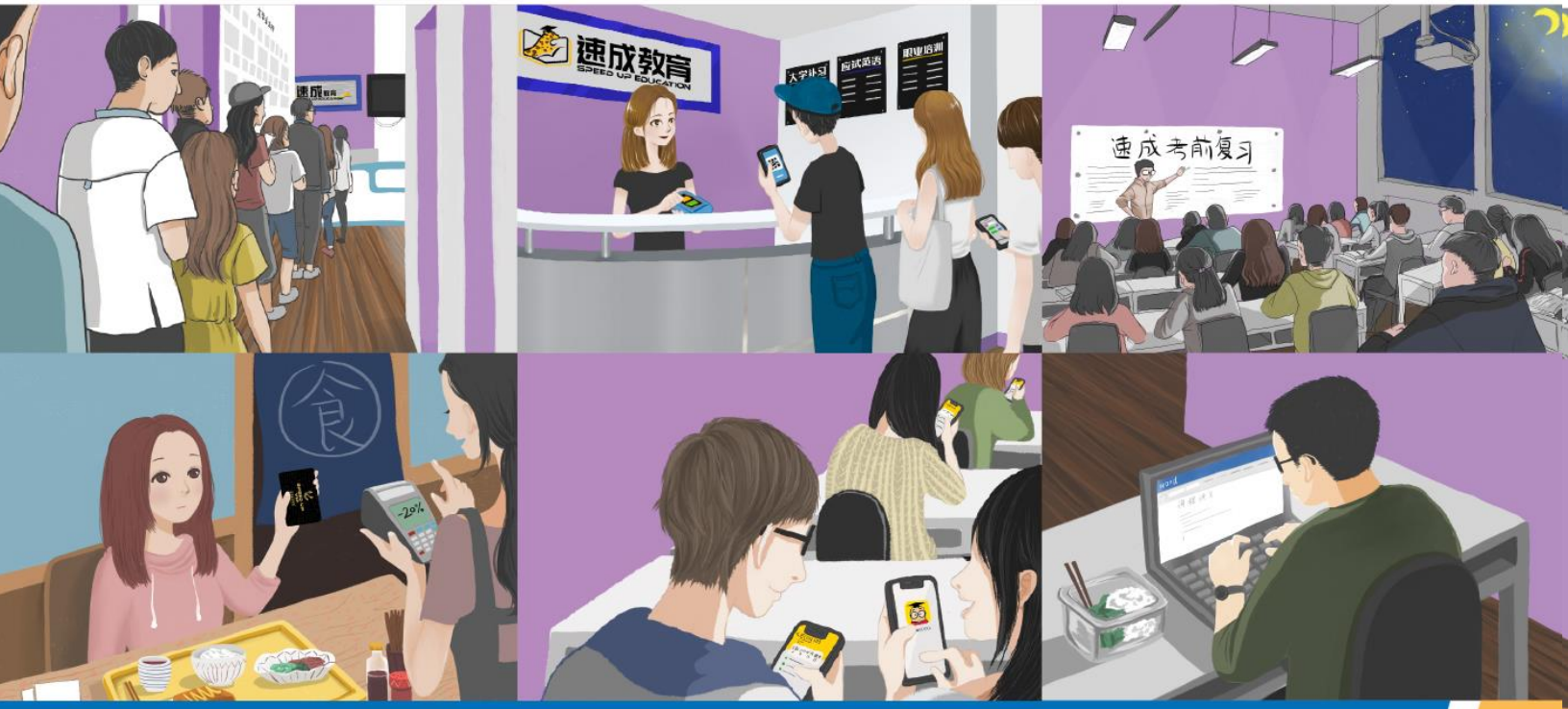
速成教育
SPEED UP EDUCATION



BUS 320

Intermediate Accounting

导师: **Alex Chen**

SFU Week 9 Class | 2022/3/12

Lecture 8 Inventory

Perpetual Inventory System VS Periodic Inventory System

Perpetual inventory system　实时更新库存数量

Periodic inventory system　年末更新 ending 库存数量

Perpetual Inventory System			Periodic Inventory System		
1. Beginning Inventory, 100 units at $6:					
The Inventory account shows the inventory on hand at $600.			The Inventory account shows the inventory on hand at $600.		
2. Purchase 900 units at $6:					
Inventory	5,400		Purchases	5,400	
Accounts Payable		5,400	Accounts Payable		5,400
3. Return 50 defective units:					
Accounts Payable	300		Accounts Payable	300	
Inventory		300	Purchase Returns and Allowances		300

Perpetual Inventory System			Periodic Inventory System		
4. Sale of 600 units at $12:					
Accounts Receivable	7,200		Accounts Receivable	7,200	
Sales Revenue		7,200	Sales Revenue		7,200
Cost of Goods Sold (600 at $6)	3,600				
Inventory		3,600	(No entry)		
5. End-of-period entries for inventory accounts, 350 units at $6 = $2,100:					
No entry necessary. The account, Inventory, shows the ending balance of $2,100 ($600 + $5,400 − $300 − $3,600)			Purchase Returns and Allowances	300	
			Inventory ($2,100 − $600)	1,500	
			Cost of Goods Sold	3,600	
			Purchases		5,400

Specific Identification

Call-Mart Inc.

Date	Purchases	Sold or Issued	Balance
Mar. 1	(beginning inventory)		
	500 @ $3.80		500 units
Mar. 2	1,500 @ $4.00		2,000 units
Mar. 15	6,000 @ $4.40		8,000 units
Mar. 19		4,000	4,000 units
Mar. 30	2,000 @ $4.75		6,000 units
	10,000	4,000	

Weighted Average Cost (Periodic)

Call-Mart Inc.

Date	Purchases	Sold or Issued	Balance
Mar. 1	(beginning inventory)		
	500 @ $3.80		500 units
Mar. 2	1,500 @ $4.00		2,000 units
Mar. 15	6,000 @ $4.40		8,000 units
Mar. 19		4,000	4,000 units
Mar. 30	2,000 @ $4.75		6,000 units
	10,000	4,000	

	Date	No. of Units	Unit Cost	Total Cost
Inventory	Mar. 1	500	$3.80	$ 1,900
Purchases	Mar. 2	1,500	4.00	6,000
Purchases	Mar. 15	6,000	4.40	26,400
Purchases	Mar. 30	2,000	4.75	9,500
Total goods available		10,000		$43,800

Weighted average cost per unit	$\frac{\$43,800}{10,000} = \$4.38$
Ending inventory in units	6,000
Cost of ending inventory	**6,000 × $4.38 = $26,280**
Cost of goods available for sale	$43,800
Deduct ending inventory	26,280
Cost of goods sold	$17,520 (= 4,000 × $4.38)

Moving-Average Cost (Perpetual)

Call-Mart Inc.

Date	Purchases	Sold or Issued	Balance
Mar. 1	(beginning inventory)		
	500 @ $3.80		500 units
Mar. 2	1,500 @ $4.00		2,000 units
Mar. 15	6,000 @ $4.40		8,000 units
Mar. 19		4,000	4,000 units
Mar. 30	2,000 @ $4.75		6,000 units
	10,000	4,000	

Date	Purchased	Sold or Issued	Balance*	
Mar. 1	Beginning inventory		(500 @ $3.80)	$ 1,900
Mar. 2	(1,500 @ $4.00) $ 6,000		(2,000 @ $3.95)	7,900
Mar. 15	(6,000 @ $4.40) 26,400		(8,000 @ $4.2875)	34,300
Mar. 19		(4,000 @ $4.2875) $17,150		
			(4,000 @ $4.2875)	17,150
Mar. 30	(2,000 @ $4.75) 9,500		(6,000 @ $4.4417)	26,650

First-In, First-Out (F I F O)

Call-Mart Inc.

Date	Purchases	Sold or Issued	Balance
Mar. 1	(beginning inventory)		
	500 @ $3.80		500 units
Mar. 2	1,500 @ $4.00		2,000 units
Mar. 15	6,000 @ $4.40		8,000 units
Mar. 19		4,000	4,000 units
Mar. 30	2,000 @ $4.75		6,000 units
	10,000	4,000	

Periodic

Date	No. of Units	Unit Cost	Total Cost
Mar. 30	2,000	$4.75	$ 9,500
Mar. 15	4,000	4.40	17,600
Ending inventory	6,000		$27,100
Cost of goods available for sale	$43,800		
Deduct: Ending inventory	27,100		
Cost of goods sold	$16,700		

Perpetual

Date	Purchased	Sold or Issued	Balance	
Mar. 1	Beginning inventory		500 @ $3.80	$ 1,900
Mar. 2	(1,500 @ $4.00) $ 6,000		500 @ $3.80 1,500 @ $4.00	7,900
Mar. 15	(6,000 @ $4.40) 26,400		500 @ $3.80 1,500 @ $4.00 6,000 @ $4.40	34,300
Mar. 19		500 @ $3.80 1,500 @ $4.00 2,000 @ $4.40	4,000 @ 4.40	17,600
		$16,700		
Mar. 30	(2,000 @ $4.75) 9,500		4,000 @ $4.40 2,000 @ $4.75	**27,100**

Cost of goods sold →

→ Ending Inventory

Repurchase Agreements

Company A needs $1,000 of financing but is unable to borrow funds from traditional sources (such as the bank) because the bank believes the loan would be too risky. The company therefore enters into an agreement with Company B to obtain the funds. A's inventory is used to support the value of the loan and legal title is transferred to B. At the same time, both parties agree to transfer the same inventory back to A at the end of 30 days for $1,010.

Purchase Commitments

Company A signs several purchase contracts in 2019. Under the terms of one contract, Company A will take delivery of the inventory in 2020 and pay a price of $640,000 to Company B. The fair value of the inventory at the company's December 31, 2019 year end declines to $500,000. Company A does not expect to be able to recover its additional costs. Assume that the fair value remains at $500,000 until the goods are delivered.

No journal entry is recorded when the contract is signed. The contract is onerous since Company A must pay $640,000 for inventory worth $500,000. The following entry is made on December 31, 2019, given that the contract is now considered onerous:

Loss on Purchase Contracts	140,000	
Liability for Onerous Contracts		140,000

When the goods are received in 2020, the entry is:

Inventory	500,000	
Liability for Onerous Contracts	140,000	
Accounts Payable		640,000

Inventory Error

Assume that the 2020 ending inventory of Wei Ltd. should be $30,000 but is understated by $10,000 and that all other items are stated correctly. How does this misstatement affect net income over a two-year period?

Measurement and the Lower of Cost and Net Realizable Value (LC&NRV) Principle

Food	Cost	Net Realizable Value
Spinach	$80,000	$120,000
Carrots	100,000	100,000
Cut beans	50,000	40,000
Peas	90,000	72,000
Mixed vegetables	95,000	92,000

- Two methods for recording inventory at LC&NRV
    - Direct method—records NRV directly in the inventory account if NRV is less than cost; loss buried in Cost of Goods Sold
    - Indirect (allowance) method—keeps the inventory at cost and uses an allowance account to adjust Inventory on the statement of financial position; loss account shown on the income statement

Inventory	At Cost	At NRV
Beginning of the period	$65,000	$65,000
End of the period	82,000	70,000

Periodic inventory system

Ending Inventory Recorded at NRV (Direct Method)			Ending Inventory Recorded at Cost and Reduced to NRV Using an Allowance		
To transfer out beginning inventory balance:					
Cost of Goods Sold	65,000		Cost of Goods Sold	65,000	
Inventory		65,000	Inventory		65,000
To record ending inventory:					
Inventory	70,000		Inventory	82,000	
Cost of Goods Sold		70,000	Cost of Goods Sold		82,000
To write down inventory to lower NRV:					
No entry			Loss on Inventory Due to Decline in NRV*	12,000	
			Allowance to Reduce Inventory to NRV		12,000

*A debit to Cost of Goods Sold is also acceptable. In either case, the debit would be presented as part of cost of goods sold.

Perpetual inventory system

Direct Method			Indirect or Allowance Method		
To reduce inventory from cost to NRV:					
Cost of Goods Sold	12,000		Loss on Inventory Due		
Inventory		12,000	to Decline in NRV*	12,000	
			Allowance to Reduce		
			Inventory to NRV		12,000

*A debit to Cost of Goods Sold is also acceptable. In either case, the debit would be presented as part of cost of goods sold.

·Gross Profit Method

Example: Assume that a company has a beginning inventory of $60,000 and purchases of $200,000, both at cost. Sales at selling price amount to $280,000. The gross profit on the selling price is 30%. Estimate ending inventory.

Beginning inventory (at cost)		$ 60,000
Purchases (at cost)		200,000
Goods available for sale (at cost)		260,000
Sales (at selling price)	$280,000	
Less: Gross profit (30% of $280,000)	84,000	
Sales at cost = Estimated cost of goods sold		196,000
Estimated inventory (at cost)		$ 64,000

Healthy Food Limited (HFL)

Inventory	At Cost	At LC&NRV	Adjustment needed
Beginning*	$610,000	$610,000	$ -0-
End of year	$415,000	$384,000	$31,000

*NRV of Beginning Inventory = $645,000

Required:

(a) Prepare the necessary adjusting entries at the end of year assuming that HFL uses the perpetual inventory system and the direct method for inventory adjustment

(b) Prepare the necessary adjusting entries at the end of year assuming that HFL uses the perpetual inventory system and the allowance method for inventory adjustment

(c) Prepare the necessary adjusting entries at the end of year assuming that HFL uses the periodic inventory system and the direct method for inventory adjustment

(d) Prepare the necessary adjusting entries at the end of year assuming that HFL uses the periodic inventory system and the allowance method for inventory adjustment

Recording Decline in NRV - **Perpetual Inventory System**

(a) Under the **Direct method**, at the end of year:

Cost of Goods Sold (I/S)	31,000	
Inventory (B/S)		31,000

(b) Under the **Allowance method**, at the end of year:

Loss due to Decline in NRV of Inventory (I/S)	31,000	
Allowance to Reduce Inventory (B/S)		31,000

Recording Decline in NRV - **Periodic Inventory System**

(c) Under the **Direct method**, at the end of year:

★Inventory (B/S)	384,000	
Cost of Goods Sold (I/S)		384,000
★Cost of Goods Sold (I/S)	610,000	
Inventory (B/S)		610,000

These are 2 of the components in the end-of-period adjusting entries required under the periodic inventory system

(d) Under the **Allowance method**, at the end of year:

★Inventory (B/S)	415,000	
Cost of Goods Sold (I/S)		415,000
★Cost of Goods Sold (I/S)	610,000	
Inventory (B/S)		610,000
Loss due to Decline in NRV of Inventory (I/S)	31,000	
Allowance to Reduce Inventory (B/S)		31,000

same here

Example – ABC Company

Required:

For each of the 8 items described later on the following pages,

(a) determine the effect of any error on ABC's 20X2 net income.
(b) prepare any correcting entries necessary to correct the accounts of ABC at the end of 20X2 assuming that the books for 20X2 have not been closed.
(c) prepare any correcting entries necessary to correct the accounts of ABC at the end of 20X2 assuming that the books for 20X2 have already been closed.
(d) determine the effect of any error on ABC's 20X3 net income.

Note: Assume that none of the errors has been corrected and all dollar amounts involved are material. Ignore the effects of income taxes.

Example – ABC Company

1. **ABC uses the periodic inventory system. During ABC's December 31, 20X1 inventory count, the inventory crew overlooked one section of the warehouse and as a result, $125,000 of merchandise that should have been counted was not counted.**

ABC Company

1. ABC uses the periodic inventory system. During ABC's December 31, 20X1 inventory count, the inventory crew overlooked one section of the warehouse and as a result, $125,000 of merchandise that should have been counted was not counted.

(a) Effect of error on 20X2 net income:
The $125,000 merchandise should be included in 20X1 Ending Inventory EI (and 20X2 Beginning Inventory BI), but was not
This error occurred at end of 20X1 and has effects on net income of both 20X1 and 20X2
For 20X1, EI understated, COGS overstated, and NI understated by $125,000
For 20X2, BI understated, COGS understated, and NI overstated by $125,000

(b) Entry to correct errors assuming books for 20X2 have not been closed:
Because 20X1 F/S had already been issued, this error is a material error that requires the retrospective restatement accounting treatment; first entry is to make this correction to the ending balances of inventory and retained earnings at the end of the previous year 20X1:

★DR Inventory	125,000	
CR Retained Earnings		125,000

2 items that need corrections:
- EI last year understated
- BI this year understated

1st incorrect item led to the 2nd incorrect item

One way to think about the **1st correction**: Correcting last year's end-of-period adjusting entries required under the periodic inventory system, with last year's books already closed

The **2nd correction** is what we need to correct the current year's end-of-period adjusting entries required under the periodic inventory system, with current year's books still open

The next entry is to correct the effect of the error in 20X2:

★DR Cost of Goods Sold	125,000	
CR Inventory		125,000

OR, combining the above two entries:

DR Cost of Goods Sold	125,000	
CR Retained Earnings		125,000

(c) Entry to correct errors assuming books for 20X2 have already been closed:
No entry is needed as the cumulative effect of the error would be zero after the books for 20X2 are closed

(d) Effect of error on 20X3 net income:
Error has no effect on 20X3 net income

	(a) effect of error on ABC's 20X2 net income	(b) correcting entries assuming that the books for 20X2 have not been closed		(c) correcting entries assuming that the books for 20X2 have already been closed		(d) effect of error on ABC's 20X3 net income (if error is not corrected)
1	O/S by $125,000 (as an example, the detailed reasoning used in this case is provided on the previous page)	DR Inventory CR Retained Earnings DR Cost of Goods Sold CR Inventory *correction of prior period error in the ending balances of the previous year	125,000* 125,000* 125,000 125,000	no entries needed		Not O/S or U/S
2	U/S by $225,000	DR Inventory CR Cost of Goods Sold	225,000 225,000	DR Inventory CR Retained Earnings	225,000 225,000	O/S by $225,000
3	O/S by $325,000	DR Purchases CR Accounts Payable DR Cost of Goods Sold CR Purchases	325,000 325,000 325,000 325,000	DR Retained Earnings CR Accounts Payable	325,000 325,000	U/S by $325,000
4	U/S by $425,000	DR Inventory CR Cost of Goods Sold	425,000 425,000	DR Inventory CR Retained Earnings	425,000 425,000	O/S by $425,000

Notations: O/S for overstated, U/S for understated

5	O/S by $595,000	DR Sales 595,000 CR Accounts Receivable 595,000		DR Retained Earnings 595,000 CR Accounts Receivable 595,000	U/S by $595,000
6	O/S by $70,000	DR Sales 695,000 CR Accounts Receivable 695,000 DR Inventory 625,000 CR Cost of Goods Sold 625,000		DR Retained Earnings 695,000 CR Accounts Receivable 695,000 DR Inventory 625,000 CR Retained Earnings 625,000	U/S by $70,000
7	O/S by $725,000	DR Cost of Goods Sold 725,000 CR Inventory 725,000		DR Retained Earnings 725,000 CR Inventory 725,000	U/S by $725,000
8	No error	no entries needed		no entries needed	No error

Notations: O/S for overstated, U/S for understated