ACC250: Intro to Financial Accounting
Ch3. The Income Statement

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Opening illustration

1. Your company has sold a product to a customer on cash in December. The product was delivered and cash collected in December.

- Revenues: December.
- Cash inflows: December.

2. Your company has sold a product to a customer on cash in December. The product was delivered in December but cash collected in January.

- Revenues: December.
- Cash inflows: January.

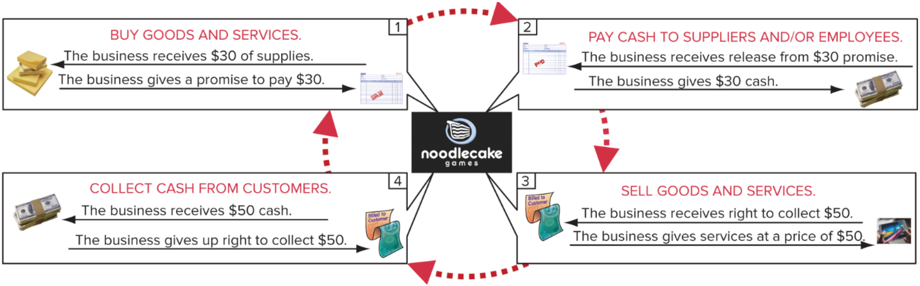
In this chapter, we study when to recognize Revenues and Expenses.

Operating Activities and Cycle

- **Operating activities** are the day-to-day activities of a business.
- **Operating activities** include:
  1. purchasing goods and services
  2. paying cash to suppliers
  3. selling goods and services
  4. collecting cash from customers
- the period from the purchase of goods and services to the collection of cash from customers - **Operating cycle**.
- Operating activities are primary sources of revenues and expenses.
- Operating activities are mainly summarized in the **Income Statement**.

Operating Activities and Cycle

Let's assume all transactions are on credit.



Revenues

Revenues (R) - Simple

The amount of resources (cash) **earned** from selling goods or services for a period. ("**earned**" means products & services are **delivered** to customers.)

Revenues (R) - Formal

Increases in assets or decreases in liabilities that arise when a company provides goods or services.

Revenue Recognition Principle

Revenue is recognized when products & services are delivered, regardless of when cash is received.

The formal definition may not make sense to you. We will visit this later in this packet.

Revenues - Examples

How much revenue should Noodlecake recognize in September?

1. In September, Noodlecake sold $3,000 of apps online. Cash collected in September.
2. Noodlecake issued three $100 gift cards at the beginning of September. These gift cards have not been used at the end of September.
3. Noodlecake sold $9,000 of apps in the App Store and on Google Play in September. Cash will be collected in October.

- Revenues: $12,000 (3,000 + 0 + 9,000)
- Cash flow timing isn't important for revenue recognition.

Expenses

Expenses (E) - Simple

Costs of operating a business, incurred to generate revenues in the period.

Expenses (E) - Formal

Decreases in assets or increases in liabilities relating to costs a company incurs when providing goods or services.

Matching Principle

- Expenses should be recognized **in the same period as the revenues** they help to generate, regardless of when cash is paid.
- In other words, expenses should be recognized when the resources are **used up** to generate the revenues.

The formal definition may not make sense to you. We will visit this later in this packet.

Expenses

1. When a company buys supplies, it's **assets** (A).
2. When the supplies are used up to generate revenues, expense should be recognized **expenses** (E).

EX. When to recognize expenses?

1. Noodlecake bought $1,000 of supplies in September.
2. Noodlecake used up the supplies in October.

Answer: October.

Expenses - Examples

How much expenses should Noodlecake recognize in September?

1. Noodlecake wrote checks to employees totaling \$7,800 for wages related to hours worked in September.
2. Noodlecake displayed online ads in Sep and received a bill for \$500 to be paid in October.
3. Noodlecake was notified by its bank that an automatic monthly payment of \$600 was transmitted to its utility company for electricity use in September.

- Expenses: \$7,800 + \$500 + \$600 = \$8,900
- Cash flow timing isn't important for expense recognition.
- Expenses should be recognized in the period when the goods or services are **used up**.

Net Income

Net Income (NI)

Revenues - Expenses.

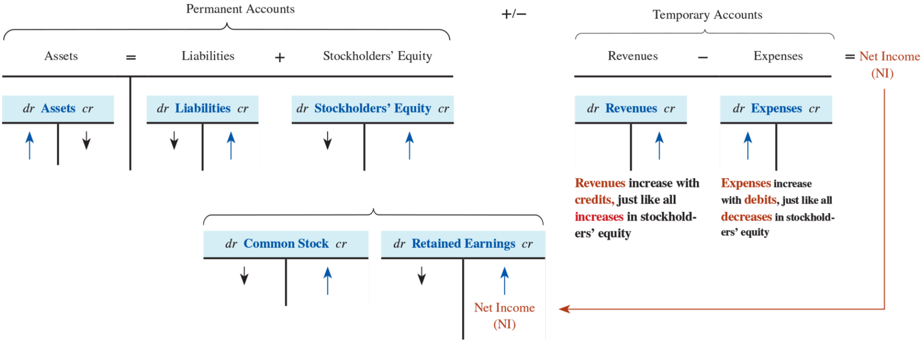
- Net Income is a measure of a company's profitability.
- Net Income is **NOT** an account.
- Net Income is **NOT** the same as cash flows from operating activities.

Debit-Credit Framework - Expansion

$$\begin{aligned}
A_t &= L_t + SHE_t \\
A_t &= L_t + (\mathrm{CC}_t + \mathrm{RE}_t) \\
A_t &= L_t + CC_t + (RE_{t-1} + \mathrm{NI}_t - \mathrm{D}_t) \\
A_t &= L_t + CC_t + (RE_{t-1} + R_t - E_t - D_t) \\
A_t + E_t + D_t &= L_t + CC_t + (RE_{t-1} + R_t)
\end{aligned}$$

A	Assets
L	Liabilities
SHE	Stockholders' Equity
CC	Contributed Capital
RE	Retained Earnings
R	Revenues
E	Expenses
NI	Net Income
D	Dividends

Debit-Credit Framework - Expansion



- RE: **credit balance** (Ch2).
- R: **credit balance** as R has a positive relationship with RE.
- E: **debit balance** as E has a negative relationship with RE.

Accrual-basis Accounting vs Cash-basis Accounting

- **Accrual-basis accounting** recognizes R & E when they are earned or incurred, **regardless of** when cash is received or paid.
- **Cash-basis accounting** recognizes R & E when cash is received or paid.
- Most companies rely on **credit-based transactions**, so **accrual-basis accounting** is more accurate.

Accrual-basis Accounting vs Cash-basis Accounting

- Noodlecake paid its employees $10,000 in January.
- $15,000 credit sales were made in January, but it was collected in February.

Cash-basis Accounting

	Jan	Feb
Revenues	$0	$15,000
Expenses	$10,000	$0
Net Income	**$-10,000**	**$15,000**

Accrual-basis Accounting

	Jan	Feb
Revenues	$15,000	$0
Expenses	$10,000	$0
Net Income	**$5,000**	**$0**

Accrual-basis accounting helps to match R & E in the same period.

1. Introduction to Income Statement and Accrual Accounting
    - Operating Activities and Cycle
    - Revenues, Expenses, and Net Income
    - Debit-Credit Framework - Expansion
    - Accrual-basis Accounting vs Cash-basis Accounting
2. Important Accounts
    - Accounts Receivable (Assets)
    - Accounts Payable (Liabilities)
    - Deferred Revenues (Unearned Revenues, Liabilities)
    - Prepaid Expenses (Assets)
3. Revenue and Expense Recognition - Cases
4. Illustration
    - Journal Entries
    - T-accounts
    - Unadjusted trial balance
5. Other topics
    - I/S - temporary & B/S - permanent
    - Net Profit Margin

Accounts Receivable (Assets)

When customers buy products from you on credit:

- Products have been delivered, but customers haven't paid yet.
- You have the right to collect the money.
- You record the amount as **Accounts Receivable (Asset!)**.
- The **customer firm** records the amount as **Accounts Payable**.
- Example: Credit Sales.

Accounts Receivable (Asset)

Amounts customers owe you for products and services sold on credit.

Date 1 - Sold on credit

Acc.Rec (+A)	10,000	
Revenues (+R, +SE)		10,000

Date 2 - Collected cash

Cash (+A)	10,000	
Acc.Rec (-A)		10,000

Accounts Payable (Liabilities)

When you buy supplies on credit:

- supplies have been delivered to you, but you haven't paid yet.
- You have the obligation to pay the money.
- You record the amount as **Accounts Payable (Liab!)**.
- The **supplier firm** records the amount as **Accounts Receivable**.
- Example: Credit Purchases.

Accounts Payable (Liability)

Amounts owed to suppliers for products and services purchased on credit.

Date 1 - Purchased on credit

Supplies (+A)	10,000	
Acc.Pay (+L)		10,000

Date 2 - Paid cash

Acc.Pay (-L)	10,000	
Cash (-A)		10,000

Deferred Revenues (Unearned Revenues, Liabilities)

When you receive cash in advance for future products and services:

- you've received the money, but you haven't delivered the products and services yet.
- You have the obligation to deliver the products and services.
- You record the amount as **Deferred Revenues** or **Unearned Revenues (Liab!)**.
- This liability is settled when the products and services are delivered.
- Example: Airline tickets purchased months ago.

Deferred (Unearned) Revenues (Liability)

Cash received before the service is performed or the product is delivered.

Date 1 - Received cash

Cash (+A)	10,000	
Def.Rev (+L)		10,000

Date 2 - Delivered products & services

Def.Rev (-L)	10,000	
Sales Revenues (+R, +SE)		10,000

Prepaid Expenses (Assets)

When you pay for products and services in advance:

- You've paid the money, but you haven't received the products and services yet.
- You have the right to receive the products and services.
- You record the amount as **Prepaid Expenses (Asset!)**.
- This asset is converted to **Expenses** when the products and services are **used up**.
- Example: Prepaid 3-year insurance policy.

Prepaid Expenses (Asset)

Amounts paid in advance for products and services that will be received in the future.

Date 1 - Paid cash for 12 month insurance policy

Prepaid Expense (+A)	12,000	
Cash (-A)		12,000

Date 2 - At the end of month 1: Recognize 1 month of expense (as used up)

Expenses (+E)	1,000	
Prepaid Expense (-A)		1,000

Revenue Recognition - Cases

Prepare the **journal entries required at the end of each month**:

1. ABC corp. sold smartphones and collected \$10,000 in January.

January:

Account	Debit	Credit
Cash (+A)	10,000	
Revenues (+R, +SE)		10,000

2. ABC corp. sold smartphones in January and collected \$10,000 in February.

January:

Account	Debit	Credit
Acc.Rec (+A)	10,000	
Revenues (+R, +SE)		10,000

February:

Account	Debit	Credit
Cash (+A)	10,000	
Acc.Rec (-A)		10,000

3. ABC corp. collected cash in January and delivered smartphones in February.

January:

Cash (+A)	10,000	
Def.Rev (+L)		10,000

February:

Def.Rev (-L)	10,000	
Sales Revenues (+R, +SE)		10,000

Revenues are recognized when prducts and services are delivered!

Revenue Recognition - Summary

Case A: Cash before sale/service.

Cash received, promise given.	Promise fulfilled, **service given**.
Asset ↑ Liability ↑	Liability ↓ Revenue ↑
No revenue at this time.	**Revenue reported.**

Case B: Cash with sale/service.

Cash received, **service given**.
Asset ↑ Revenue ↑
Revenue reported.

Case C: Sale/service before, and cash after.

Right received, **service given**.	Cash received, right given up.
Asset ↑ Revenue ↑	Asset ↑ Asset ↓
Revenue reported.	**No revenue** at this time.

Revenue Recognition - Summary

Revenues (R) - Formal

Increases in assets or decreases in liabilities that arise when a company provides goods or services.

- Case 1. Revenues reconized with **decreases in liabilities** (Deferred Revenues).
- Case 2. Revenues reconized with **increases in assets** (Cash).
- Case 3. Revenues reconized with **increases in assets** (Accounts Receivable).

Matching Principle for Expense Recognition - Cases

Prepare the **journal entries required at the end of each month**:

1. ABC corp. received $1,000 utility bill and paid it at the end of January.

January:

Utility Expenses (+E)	1,000	
Cash (-A)		1,000

2. ABC corp.'s employees worked for the firm in January and received $5,000 in February.

January:

Wages Expense (+E, -SE)	5,000	
Wages Payable (+L)		5,000

February:

Wages Payable (-L)	5,000	
Cash (-A)		5,000

3. ABC corp. purchased supplies ($2,000) in January and used them in February.

January:

Supplies (+A)	2,000	
Cash (-A)		2,000

February:

Supplies Expense (+E)	2,000	
Supplies (-A)		2,000

4. ABC corp. purchased a 12-months insurance plan ($12,000) at the beginning of month 1.

January:

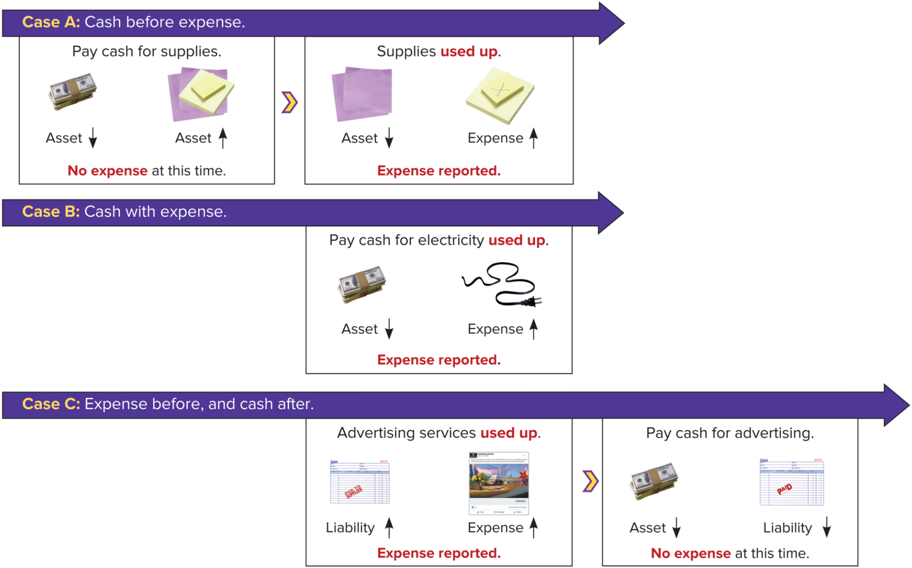
Prepaid Insurance Expense (+A)	12,000	
Cash (-A)		12,000

February:

Insurance Expense (+E)	1,000	
Prepaid Insurance Expense (-A)		1,000

Expenses are recognized when "used up" / "incurred"

Expense Recognition - Summary



Expense Recognition - Summary

Expenses (E) - Formal

Decreases in assets or increases in liabilities relating to costs a company incurs when providing goods or services.

- Case 1. Expenses reconized with **decreases in assets** (e.g., Supplies; Prepaid Rent).
- Case 2. Expenses reconized with **decreases in assets** (e.g., Cash).
- Case 3. Expenses reconized with **increases in liabilities** (e.g., Accounts Payable; Wages Payable).

Illustration

- In Ch2, we have prepared journal entries for the following **August** transactions.
- In Ch3 (here), we prepare journal entries for the following **September** transactions.
- For B/S accounts: **balances are carried over from August to September**.
- For I/S accounts: balances are cleared at the end of August and initialized at the beginning of September.
- Why? revenues in August shouldn't be double-counted in September.

1. In September, Noodlecake sold $3,000 of apps online. Cash collected in September.

Cash (+A)	3,000	
Revenues (+R, +SE)		3,000

2. Noodlecake issued three $100 gift cards at the beginning of September.

Cash (+A)	300	
Def.Rev (+L)		300

3. Noodlecake sold $9,000 of apps in the App Store and on Google Play. Cash will be collected in October.

Acc.Rec (+A)	9,000	
Revenues (+R, +SE)		9,000

4. Noodlecake received checks totaling $8,500 from Apple and Google, on account.

Cash (+A)	8,500	
Acc.Rec (-A)		8,500

5. Noodlecake wrote checks to employees totaling $7,800 for wages related to hours worked in September.

Wages Expense (+E, -SE)	7,800	
Cash (-A)		7,800

6. On September 1, Noodlecake paid $7,200 in advance for September, October, and November rent.

Prepaid Rent (+A)	7,200	
Cash (-A)		7,200

7. Noodlecake displayed online ads in September and received a bill for $500 to be paid in October.

Advertising Expenses (+E)	500	
Acc.Pay (+L)		500

8. Noodlecake was notified by its bank that an automatic monthly payment of $600 was transmitted to its utility company for electricity use in September.

Utility Expenses (+E)	600	
Cash (-A)		600

T-accounts

Cash

Beg. 20,700	
3,000	7,800
300	7,200
8,500	600
End. 16,900	

Accounts Receivable

Beg. 0	
9,000	8,500
End. 500	

Supplies

Beg. 600	
End. 600	

Prepaid Rent

Beg. 0	
7,200	
End. 7,200	

Equipment

Beg. 9,600	
End. 9,600	

Software

Beg. 9,000	
End. 9,000	

Logo and Trademark

Beg. 300	
End. 300	

Accounts Payable

	Beg. 10,200
	500
	End. 10,700

DeferredRevenues

	Beg. 0
	300
	End. 300

Notes Payable

	Beg. 20,000
	0
	End. 20,000

Common Stock

	Beg. 10,000
	End. 10,000

Retained Earnings

	Beg. 0
	See Ch4.

Sales Revenue

	Beg. 0
	3,000
	9,000
	End. 12,000

Wages Expense

Beg. 0	
7,800	
End. 7,800	

Utilities Expense

Beg. 0	
600	
End. 600	

Advertising Expense

Beg. 0	
500	
End. 500	

Unadjusted trial balance

- Take all the debits and credits from the T-Accounts to the Trial Balance.

Account Title	**Debit ($)**	**Credit ($)**
Cash	16,900	
Accounts Receivable	500	
Supplies	600	
Prepaid Rent	7,200	
Equipment	9,600	
Logo & Trademarks	300	
Software	9,000	
Accounts Payable		10,700
Deferred Revenues		300
Notes Payable		20,000
Common Stock		10,000
Retained Earnings		0
Sales Revenue		12,000
Wages Expense	7,800	
Utilities Expense	600	
Advertising Expense	500	
Total	53,000	53,000

I/S - temporary & B/S - permanent

- I/S summarizes the financial effects of business activities from the **current period**.
- I/S accounts are summarized to **Net Income**.
- Net Income is taken to B/S through **Retained Earnings**.
- So, B/S includes the financial effects of business activities from **all periods**.
- Once I/S information is taken to B/S, I/S accounts are cleared (i.e., set to 0).
- I/S accounts then record R and E from the next period.

	I/S	**B/S**
Accounts	R, E	A, L, SHE
Represents the financial effects	just the current period	all periods
Beg.Bal.	0	from the previous period
Initialized?	yes	no
temporary or permanent?	temporary	permanent

Net Profit Margin

Net Profit Ratio

- A profitability ratio that measures how much net income is generated as a percentage of net sales.
- Calculated as: $\frac{\text{Net Income}}{\text{Net Revenues}}$

EX. Calculate Noodlecake's net profit margin.

- Net Income: $3,100 ($12,000 - $7,800 - $600 - $500)
- Revenue: $12,000

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Net Revenues}} = \frac{3,100}{12,000} = 0.258 = 25.8\%$$