chapter

3

The Adjusting Process

OPENING COMMENTS

Chapter 3 introduces students to the adjusting process. The beginning of the chapter briefly describes the cash basis of accounting and includes examples of businesses that use it. The focus of the text is on the accrual basis of accounting. The basic idea of the expense recognition principle (matching principle) was presented in Chapter 1, where expenses incurred were matched against revenues. Now, in Chapter 3, revenue and expense recognition is introduced formally and as a stand-alone concept. The matching principle is defined and discussed, and the chapter includes full coverage of the accrual basis. Of all the accounting concepts and principles introduced in the early chapters of the text, matching is the most important.

The chapter's main emphasis is on the preparation of adjusting entries. Definitions, calculations where pertinent, and examples of the four basic types of deferrals and accruals are included. The chapter then covers the adjustment of fixed assets (depreciation). The chapter ends with an explanation and demonstration of analyzing financial statements using vertical analysis. Interpretation explains the value of examining relationships within financial statements.

After studying the chapter, your students should be able to:

1. Describe the nature of the adjusting process.
2. Prepare adjusting entries for accruals.
3. Prepare adjusting entries for deferrals.
4. Prepare adjusting entries for depreciation.
5. Summarize the adjusting process.
6. Prepare an adjusted trial balance.
7. Describe and illustrate the use of vertical analysis in evaluating a company's performance and financial condition.

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KEY TERMS

accrual
accrual basis of accounting
Accumulated Depreciation
adjusted trial balance
adjusting entries
adjusting process
book value of the asset (or net book value)
cash basis of accounting
contra accounts (or contra asset accounts)
deferral
depreciate
depreciation
depreciation expense
expense recognition principle
fixed assets (or plant assets)
matching principle
prepaid expense
revenue recognition
revenue recognition principle
unearned revenue
vertical analysis

STUDENT FAQS

- Why can't we just do cash basis accounting?
- Why is Unearned Revenue a liability instead of a revenue account?
- Adjusting entries give me a headache. Can we just skip them?
- Why are adjusting entries done at the end of the accounting period instead of at the beginning?
- Expired and unexpired give me problems. Is there an easy way to understand them?
- Why is matching revenues and expenses so important?
- Why is something we use up, like supplies, an asset?
- Accrual means what, again?
- Deferral means what, again?
- Why do we sometimes record a revenue or expense as a deferred item? Wouldn't it be easier to always record revenue to a revenue account and remove any unearned revenue at year-end? Wouldn't it be easier to always record an expense item to an expense account and then remove any unused expense at year-end?
- How can an expense item temporarily be treated as an asset? I thought an asset was something of value or worth, not a cost of doing business.

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- How can revenue temporarily be treated as a liability? I thought revenue was a good thing, not a debt or obligation.
- Why can't you debit Depreciation Expense and credit Equipment? No other adjusting entry uses a contra account.
- If you are going to deduct the contra account (Accumulated Depreciation) from the equipment account, why not show equipment at the net value to start with?
- Now that I know about vertical analysis, what are some examples of when it's better or more informative to use one instead of the other or both?

OBJECTIVE 1

Describe the nature of the adjusting process.

SYNOPSIS

Accountants use generally accepted accounting principles called GAAP to account for business transactions. The accounting period concept requires that revenues and expenses be recorded in the proper period. The revenue recognition principle and the expense recognition principle (matching principle) require that revenues be recorded when services have been performed or products have been delivered to customers and the expenses incurred in generating revenue be reported in the same period as the related revenue. Some businesses use the cash basis of accounting; in this method, revenue is recorded when cash is received and expenses are recorded when the cash is paid. Small service businesses that have few receivables and payables may use the cash basis.

At the end of the accounting period, a few accounts require updating. Expenses not recorded daily, revenues and expenses incurred as time passes, and revenues and expenses that are unrecorded are all accounts that need adjusted. These transactions are recorded at the end of the period prior to the financial statements being prepared and are called adjusting entries. Accrued revenues, accrued expenses, unearned revenues, and prepaid expenses are examples of accounts that require adjusting.

Two types of accounts require adjustment: accruals and deferrals. An accrual occurs when revenue has been earned or an expense has been incurred but not yet recorded. Exhibit 1 summarizes the accounting for accruals. Exhibit 1 summarizes the adjustment required to recognize that revenue has been earned even though no cash has been collected yet. Accrued expenses are expenses that are unrecorded but have been incurred. Exhibit 1 also summarizes the adjustment required to recognize that an expense has been incurred even though no cash has been paid yet. Adjusting entries at the end of the period will record these revenues and expenses. See the text for examples of these transactions.

A deferral occurs when cash related to a future revenue or expense has been initially recorded as a liability or an asset. Exhibit 2 summarizes the accounting for deferrals. When cash is paid for a prepaid expense, it is recorded as an asset. Insurance is an expense that is paid in advance. The premium is used up over time, and the asset needs to be credited and an expense account debited to reflect the amount of insurance expired. Exhibit 2 summarizes the adjustment required to recognize the expiration of prepaid expenses. Unearned revenues are the advance receipt of cash for future revenues. Since cash is paid for a service or good not yet received by the customer, it is recorded as a liability. Unearned revenues become earned over time or during normal operations. Exhibit 2 also summarizes the adjustment required to

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recognize that previously unearned revenue has now been earned. Accrued revenues are unrecorded revenues that have been earned and for which cash has not yet been received. In summary, prepaid expenses and unearned revenues are referred to as deferrals because the recording of the related expenses or revenue is deferred to the next accounting period. Accrued revenues and accrued expenses are known as accruals, and the related revenue or expense will be recorded in the current period.

Key Terms and Definitions

- **Accrual** - An accrual occurs when revenue has been earned or an expense has been incurred but has not been recorded.
- **Accrual Basis of Accounting** - Under this basis of accounting, revenues and expenses are recorded in the income statement in the period in which they are earned or incurred.
- **Adjusting Entries -** The journal entries that bring the accounts up to date at the end of the accounting period.
- **Adjusting Process -** An analysis and updating of the accounts when financial statements are prepared.
- **Cash Basis of Accounting** - Under this basis of accounting, revenues and expenses are reported in the income statement in the period in which cash is received or paid.
- **Deferral** - A deferral occurs when cash related to a future revenue or expense has been initially recorded as a liability or an asset.
- **Expense Recognition Principle** - A principle, sometimes called the matching principle, that requires expenses to be recorded in the same period as the related revenue.
- **Matching Principle -** A concept of accounting in which expenses are matched with the revenue generated during a period by those expenses.
- **Prepaid Expense** - Items such as supplies that will be used in the business in the future.
- **Revenue Recognition** - The process of recognizing revenue.
- **Revenue Recognition Principle** - The concept that supports recording revenues when services have been performed or products delivered to customers.
- **Unearned Revenue** - The liability created by receiving revenue in advance.

Relevant Example Exercises and Exhibits

- Example Exercise 3-1 – Accounts Requiring Adjustment
- Exhibit 1 – Accruals
- Exhibit 2 – Deferrals
- Example Exercise 3-2 – Type of Adjustment

SUGGESTED APPROACH

Under this objective, you will need to revisit the expense recognition (matching) principle from Chapter 1. Emphasize again that the matching principle is necessary in order to match revenues and expenses in the proper accounting period. If the concept is violated, the financial statements for the period will not be accurate. The adjusting process discussed in this chapter is critical to conforming to the matching principle.

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To check your students' understanding of these concepts, pose the following questions:

> If rent for May is paid on June 1, in which month will it be reported as an expense under (a) the cash basis and (b) the accrual basis? Answer: (a) June, (b) May.
>
> If a university received cash in August for football season tickets, when should this be reported as revenue under (a) the cash basis and (b) the accrual basis? Answer: (a) August, (b) throughout football season as games are played.

You may also want to point out that the cash basis of accounting is used by most individuals for income tax purposes and by service providers, such as doctors and lawyers, due to the way they receive their revenue.

GROUP LEARNING ACTIVITY—Introduction to Revenue and Expense Recognition

Handout 3-1 provides financial information about an individual filling out a loan application. The loan application asks for total monthly expenses. The person applying for the loan has a few expenses that are paid annually or semiannually. Therefore, your students must "match" expenses to the time period requested by the loan application: one month. The expenses paid annually and semiannually must be divided into monthly amounts to properly determine the applicant's total monthly expenses.

The solution to this exercise is provided in Handout 3-2

LECTURE AID—Matching Principle

Remind your students that, similar to personal expenses, not all business expenses are paid monthly. If a business wants to know its true expenses for the month, it must consider all expenses incurred, not just the expenses paid that month.

Likewise, payment for services provided to customers is not always received in the same month that the service is completed. If a business wants to know how much revenue it has earned, it must determine the value of services provided, not just the cash received in payment for services rendered.

The accrual basis of accounting dictates that all revenues are recognized when services have been performed or products have been delivered to customers. All expenses are to be recorded in the accounting records when they are incurred, not when they are paid.

Finally, if a business wants to determine whether the pricing of its services results in an adequate profit, it must compare the revenues earned from providing services to all the expenses incurred in providing those services.

The matching principle in accounting states that all the expenses incurred in providing a service or selling a product must be recorded in the same period that the revenue from the service or sale is recorded. Expenses are matched against the revenue they generate. The matching principle and accrual basis of

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accounting go hand in hand. Because of these concepts, some accounts must be updated at the end of an accounting period to show the correct amount of revenues and expenses. This process of updating the accounts is accomplished through adjusting entries.

GROUP LEARNING ACTIVITY—Reviewing the Matching Principle

Handout 3-3 asks students to apply the matching principle by determining the profit on a stone patio laid by Artisan Stone and Brick. Handout 3-4 provides the solution to this exercise. Once you have reviewed the solution, pose this question to your students: "What if only $300 of the $400 worth of stones was actually used to create the patio? What is the impact on total expenses and profit?" Answer: Expenses are overstated and profit is understated.

Remind students that adjusting entries are necessary to update the accounting records to include all revenues earned and all expenses incurred. Making adjusting entries is a requirement of the accrual basis of accounting.

After reviewing the purpose of adjusting entries, you will need to distinguish between deferrals and accruals. The Lecture Aid below will help you explain the difference.

LECTURE AID—Accruals and Deferrals

Accruals record expenses that have been incurred or revenues that have been earned that have not been recorded in the accounting records. A student has an accrued expense when he/she uses utilities (such as water or electricity) before receiving the monthly bill. Other examples of accruals follow:

1. *Accrued expenses*—salaries/wages owed to employees at the end of an accounting period that have not been paid; interest owed on loans that have not been paid.
2. *Accrued revenues*—fees earned that have not been received; interest on a savings account or other investment that has been earned but not received.

Deferrals adjust accounts that are already a part of a company's accounting records.

Deferred expenses occur when an asset that will be used up or will expire is purchased. As this asset is used, its cost must be recorded as an expense. Therefore, you defer recording the cost of the asset as an expense until it is used. An example of a deferred expense for a student is tuition paid at the beginning of each term. Business examples of deferred expenses include the following:

1. *Supplies*—These are recorded as an asset when they are purchased. As the supplies are used, an adjusting entry is made to transfer the cost of the supplies to an expense account.
2. *Prepaid insurance*—When an insurance policy is paid in advance of the period covered, its cost is recorded as an asset. An adjusting entry must be made to transfer the cost of the insurance policy to an expense account as the policy expires.

Revenues are deferred when cash is received from a customer before a business completes its service for the customer or delivers its product. When cash is received under these circumstances, it cannot be

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recorded as revenue, since it has not been earned. Instead, it is recorded as a liability, reflecting the company's obligation to provide its service or to deliver its product to the customer. Once this obligation has been fulfilled, the liability is removed and revenue is recognized. Therefore, you defer recording revenue until it is earned. A student would have deferred revenue if he/she received cash in advance from a neighbor to mow a lawn. Thus, revenue is deferred by crediting a liability account instead of a revenue account. Unearned Revenue is the liability account used to record cash received from customers in advance. If any portion of the goods or services paid for has been delivered to the customer by the end of the accounting period, an adjusting entry must be made to transfer the revenue earned from the unearned revenue liability account to a revenue account.

Handout 3-5 provides a summary of deferrals and accruals. This can be used as a handout for students to review these concepts.

OBJECTIVE 2

Prepare adjusting entries for accruals.

SYNOPSIS

The previous objective showed the overall nature and process of adjusting. This objective shows the journal entries for accruals and how they affect the trial balance. Starting with the unadjusted trial balance for NetSolutions presented in Exhibit 3, this objective shows how the adjustments change the balances of the accounts while keeping the debits and credits in the new adjusted trial balance equal. These adjustments must be completed before the completion of the period's financial statements. Understatement or overstatement of expenses and revenues would make all the financial statements inaccurate. The adjusting entry process introduces students to new accounts such as Accumulated Depreciation, Wages Payable, and Unearned Rent. These accounts and others are included in the expanded chart of accounts for NetSolutions presented in Exhibit 4. Accrued revenues and expenses must be recorded to update these accounts. Perhaps one of the most common examples of an accrued expense is wages expense. Because most students have held a job of some sort, they know that employers pay their employees on a specific day (e.g., every Friday, biweekly, semimonthly, the last day of the month, etc.). Thus, it is not difficult to get students to understand why wages expense must be accrued at the end of the accounting period. Exhibit 5 demonstrates the determination of accrued wages.

Relevant Example Exercises and Exhibits

- Exhibit 3 – Unadjusted Trial Balance for NetSolutions
- Exhibit 4 – Expanded Chart of Accounts for NetSolutions
- Example Exercise 3-3 – Adjustment for Accrued Revenues
- Exhibit 5 – Accrued Wages
- Example Exercise 3-4 – Adjustment for Accrued Expense

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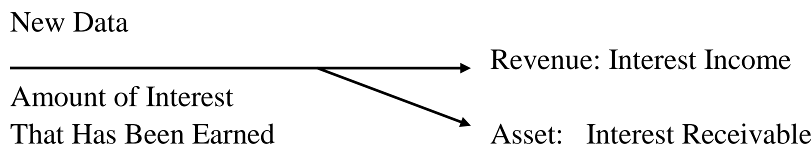
SUGGESTED APPROACH

Adjusting entries can be effectively presented to your class by working through an example of each adjusting entry covered in the text. Or, you may choose to work a problem opposite an assigned homework problem. Demonstration Problems and sample explanations follow, covering (1) Accrued Revenues using the interest income account and (2) Accrued Expenses using the wages expense account.

DEMONSTRATION PROBLEM—Adjusting Entry for Accrued Revenues

Any revenue that a business has earned must be recorded before preparing financial statements in order to get a true measure of profitability. The act of recording revenues that have not been received is called accruing revenues.

One example of accrued revenue is interest. Assume that a company charges its customers interest whenever they ask for more than 30 days to pay for a credit purchase. The interest is paid at the same time as the receivable. At the end of an accounting period, the company may have earned interest that it has not received, since the customer has not paid the account. That interest must be recorded in a revenue account (to show it has been earned) and a receivable account (to show it will be received in the future). Graphically, this can be illustrated as follows:



For example, Atherton Plumbing granted a customer additional time to pay an invoice; however, the customer must pay interest at a rate of 10 percent annually. At the end of the accounting period, the interest that has accumulated totals $80.

Original Entry:	None		
Adjusting Entry:	Interest Receivable…………..	80	
	Interest Income……….......		80

The T accounts follow:

Interest Receivable	
Adj. 80	

Interest Income	
	Adj. 80

Other examples of accrued revenues would be commissions earned by a travel agent but not billed or cleaning services fees earned by a property management company but not yet billed. You could also illustrate the concept of accrued revenue by asking your students to estimate any wages they have earned that have not been paid as of today.

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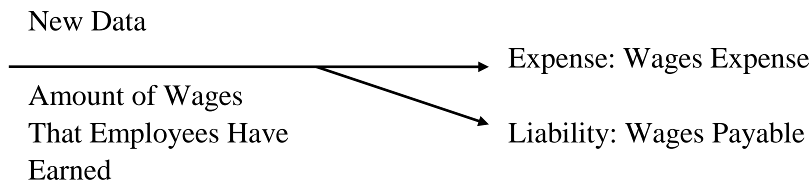
DEMONSTRATION PROBLEM—Adjusting Entry for Accrued Expenses

Any expenses that a business has incurred must be recorded before preparing financial statements in order to get a true measure of profitability. The act of recording expenses that have not been paid is called accruing expenses.

One common example is wages paid to employees. Many organizations pay their employees on Friday. Wages expense is generally recorded only when wages are paid. Therefore, if the accounting period ends on a day other than payday, the employees will have earned wages that have not been recorded as an expense. These wages must be accrued.

Graphically, this can be illustrated as follows:



For example, assume that December 31 is a Wednesday. On that date, Huber Rental Properties owes $500 in wages to employees. These wages will be paid on Friday, the usual payday.

Original Entry:	None		
Adjusting Entry:	Wages Expense…………	500	
	Wages Payable…...........		500

The T accounts follow:

Wages Expense	
Adj. 500	

Wages Payable	
	Adj. 500

OBJECTIVE 3

Prepare adjusting entries for deferrals.

SYNOPSIS

Unearned revenue accounts must be adjusted to account for revenue that has been earned in this period. Using supplies and prepaid insurance as examples of prepaid expenses, this objective demonstrates how to calculate how much of these assets have been used up and how to journalize this transaction. Without these adjustments, expenses would be understated.

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Relevant Example Exercises

- Example Exercise 3-5 – Adjustment for Unearned Revenue
- Example Exercise 3-6 – Adjustment for Prepaid Expense

SUGGESTED APPROACH

Adjusting entries can be effectively presented to your class by working through an example of each adjusting entry covered in the text. Or, you may choose to work a problem opposite an assigned homework problem. Demonstration Problems and sample explanations follow, covering (1) Unearned Revenue using the unearned rent account and (2) Prepaid Expense using supplies and prepaid insurance accounts.

DEMONSTRATION PROBLEM—Adjusting Entry for Unearned Revenue

If payment for goods or services is received before the goods are delivered or the service is performed, it cannot be recognized as revenue. Revenue can be recorded only after it is earned. Therefore, when payment is received in advance, it is recorded in an unearned revenue account. This is a liability account. By receiving payment, the company has obligated itself to deliver the goods or provide the services for which it was paid. This obligation is expressed in the accounting records as a liability. If a portion (or all) of the revenue has been earned by the end of the accounting period, some (or all) of the unearned revenue is transferred to a revenue account.

Graphically, this can be illustrated as follows:

	New Data	
Liability: Unearned Revenue	⟶ Amount of Revenue That Has Been Earned	Revenue: Fees Earned (or other revenue earned account as appropriate)

For example, on November 2, Huber Rental Properties received three months' rent, totaling $2,400, in advance for one of its commercial properties. As of December 31, two months' worth of this rent had been earned.

Original Entry:	Cash……………………	2,400	
	Unearned Rent….........		2,400
Adjusting Entry:	Unearned Rent…………	1,600	
	Rent Revenue…….........		1,600

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The T accounts follow:

Unearned Rent

Adj. 1,600	11/2 2,400
	Bal. 800

Rent Revenue

	Adj. 1,600

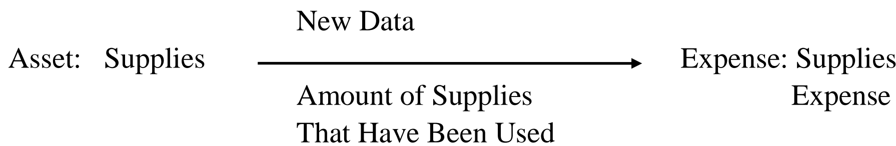
The T accounts show that the balance of the unearned rent is equal to the one month's rent that has not been earned—$800.

You will probably need to stress that "unearned" rent is a liability on the balance sheet; "earned" rent is revenue on the income statement.

DEMONSTRATION PROBLEM—Adjusting Entry for Supplies

Another asset that must be adjusted at the end of the accounting period is the supplies account. All supplies are recorded in the supplies account as they are purchased. By the end of the accounting period, some of the supplies will have been used. The supplies used must be taken out of the supplies account and transferred to an expense account.

Graphically, this can be illustrated as follows:



For example, on December 5, Atherton Plumbing purchased $250 in supplies. As of December 31, only $50 worth of those supplies was left.

Original Entry:	Supplies…………….	250	
	Cash……………….......		250
Adjusting Entry:	Supplies Expense……	200	
	Supplies……...........		200

(*Note:* $200 represents the supplies used.)

The T accounts follow:

Supplies

12/5 250	Adj. 200
Bal. 50	

Supplies Expense

Adj. 200	

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The T accounts show that the balance of the supplies account is $50—the amount of supplies left.

To illustrate why businesses typically count the amount of supplies left at the end of the month and use that information to determine the cost of supplies used, ask your students the following question:

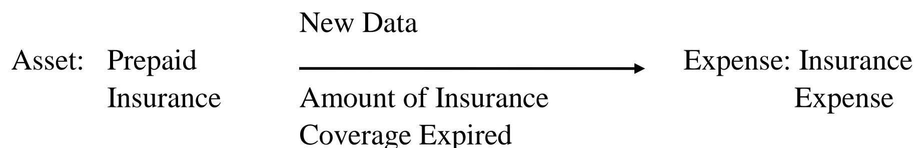
> What is the easiest way to determine how many miles you have driven your car this month? Answer: Record the beginning and ending odometer readings. This is easier than writing down the miles driven each time the car is used.

To visually demonstrate the supplies adjustment, you can use candy to represent supplies. Count the candy ahead of time in front of the class and make a journal entry on the board to record the purchase of the supplies. Use a T account to record the supplies account balance. Offer the candy to students, allowing them to take a piece if they desire. Once all the students are satisfied, re-count the candy and show what is left. Make the adjusting entry on the board to reflect the remaining candy in the "supplies cabinet."

DEMONSTRATION PROBLEM—Adjusting Entry for Prepaid Insurance

An example of an expense that is typically paid in advance is insurance. Insurance policies are paid at the beginning of a policy period. This cost of the policy is recorded in Prepaid Insurance—an asset account. The portion of the insurance coverage that has expired by the end of the accounting period must be transferred to an expense account. You may want to point out to students that an insurance policy can be cancelled at any time and the insured party will receive a refund for the unused portion of the policy. This may help students understand how the unused portion of the insurance policy is an asset, and the portion that has expired and cannot be refunded becomes an expense. The adjusting entry will bring the asset account up to date and accurately reflect the expenses for the period.

Graphically, this can be illustrated as follows:



For example, on December 1, Atherton Plumbing purchased a six-month insurance policy for $600. As of December 31, one month (or $100) of that coverage had expired.

Original Entry:	Prepaid Insurance………	600	
	Cash…………….........		600
Adjusting Entry:	Insurance Expense……...	100	
	Prepaid Insurance.........		100

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The T accounts follow:

Prepaid Insurance			
12/1	600		
		Adj.	100
Bal.	500		

Insurance Expense			
Adj.	100		

The T accounts show that the $500 (or five months) of insurance coverage that has not expired is carried as the balance in the prepaid insurance account.

OBJECTIVE 4

Prepare adjusting entries for depreciation.

SYNOPSIS

The last type of account to be adjusted is depreciation expense. This involves the use of fixed or plant assets. Because of their unique nature and long life, they are recognized separately. Land cannot be depreciated; however, buildings and equipment are two long-term assets that can be depreciated. As time passes, these assets lose their usefulness and this is recorded as depreciation expense. The depreciation is accumulated in an account called Accumulated Depreciation, which is a contra account. The normal balance of a contra account is the opposite of the account from which it is deducted. The accumulated depreciation (credit) is subtracted from the related fixed asset (debit) account to give the book value of the asset. The text demonstrates this journal entry showing the accumulated depreciation of office equipment as a transaction and its effect on the T accounts.

Key Terms and Definitions

- **Accumulated Depreciation** - The contra asset account credited when recording the depreciation of a fixed asset.
- **Book Value of the Asset (or Net Book Value)** - The difference between the cost of a fixed asset and its accumulated depreciation.
- **Contra Accounts (or Contra Asset Accounts)** - An account offset against another account.
- **Depreciate** - To lose usefulness as all fixed assets except land do.
- **Depreciation** - The systematic periodic transfer of the cost of a fixed asset to an expense account during its expected useful life.
- **Depreciation Expense** - The portion of the cost of a fixed asset that is recorded as an expense each year of its useful life.
- **Fixed Assets (or Plant Assets)** - Long-term or relatively permanent tangible assets such as equipment, machinery, and buildings that are used in the normal business operations and that depreciate over time.

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Relevant Example Exercise

- Example Exercise 3-7 – Adjustment for Depreciation

SUGGESTED APPROACH

Adjusting entries can be effectively presented to your class by working through an example of each adjusting entry covered in the text. Or, you may choose to work a problem opposite an assigned homework problem. A Demonstration Problem and sample explanation follow, covering Depreciation using the depreciation expense—delivery van account.

DEMONSTRATION PROBLEM—Adjusting Entry for Depreciation

Read the following scenario to your class:

> Assume that your car needs four new tires. One set of tires you are considering costs $200. The manufacturer estimates that these tires will last for 20,000 miles. If you drive about 10,000 miles per year, that equates to two years.
>
> Another set of tires costs $300. These tires should last for 40,000 miles or four years.
>
> Assuming that you plan to keep your car at least another four years, which set of tires is the better deal? Why?
>
> The $200 set of tires will cost the driver $100 per year ($200 × 2 sets = $400; $400/4 yrs. = $100). The $300 set will cost only $75 per year ($300/4 yrs.). Therefore, the $300 set is a better value in the long run.

It is common to break the cost of a long-term asset into a cost per year or a cost per month when evaluating whether or not to purchase the asset. Allocating the cost of an asset (such as the tires) to the years it is used makes it easier to determine the yearly expense of owning the asset. The cost of owning the $300 set of tires is $75 per year.

The accrual basis of accounting requires business owners to allocate the cost of fixed assets to the years they are used. This process is called depreciation.

Consider the following example. A florist purchases a delivery van for $12,000. The van will last three years. What is the florist's cost per year for this van? (Answer: $4,000)

When the florist purchases the van, he will record it in an asset account. The van's cost must be transferred from the asset account to an expense account over the three years it is used. In other words, the van must be depreciated over the three years it is used. The van may be useful past the three-year period, and the asset will remain on the balance sheet until the asset is disposed of. The book value of the asset, however, will fall to zero after the third year of depreciation, assuming no residual value is stated in the depreciation calculations. This topic is discussed in Chapter 10 in detail.

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The florist's accountant is required to record depreciation on the delivery van for the following two reasons:

1. Whenever an asset is used up in running a business, it must be recorded as an expense. Similar to supplies or prepaid insurance, the florist's van will not last forever. Its usefulness will eventually expire. Therefore, a portion of the van will be recorded as an expense in each year the van is used.
2. The matching concept dictates that all costs incurred in running a business must be matched against the revenues they generate. The van will allow the florist to sell flowers and make deliveries for three years. Therefore, a portion of the cost of the van must be matched against the revenue earned in each of those three years.

Graphically, this can be illustrated as follows:

		New Data	
Asset:	Delivery Van	——————————→	Expense: Depreciation Expense
		Portion of the Van's Usefulness That Has Expired	

The journal entries to record the purchase of the van and the first year's depreciation are as follows:

Original Entry:	Delivery Van…………………………	12,000	
	Cash…………………………........		12,000
Adjusting Entry:	Depreciation Expense—Delivery Van	4,000	
	Accumulated Depreciation —Delivery Van…………..........		4,000

Note that the account credited by the adjusting entry is Accumulated Depreciation—Delivery Van. This is a contra asset account—an account that works "against" another asset account to reduce it. The accumulated depreciation—delivery van account works against the delivery van account.

The T accounts follow:

Delivery Van

Debit	Credit
12,000	
Bal. 12,000	

Depreciation Expense—Delivery Van

Debit	Credit
Adj. 4,000	
Bal. 4,000	

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Accumulated Depreciation— Delivery Van	
	Adj. 4,000
	Bal. 4,000

The asset and contra asset accounts are reported on the balance sheet as follows:

Delivery van	$12,000
Accumulated. depr.	(4,000)
Net book value of van	$ 8,000

Why use a contra account to record the adjusting entry for depreciation? Why not just reduce the delivery van account directly?

1. Both the original cost and the amount of depreciation recorded on a fixed asset should be reported on the balance sheet. Therefore, the amounts are kept in separate accounts.
2. Any depreciation recorded on a fixed asset is just an estimate of the asset's usefulness that has expired. This estimate is maintained in a separate account. For accounting purposes, we assign this cost over time to spread the expense over the estimated useful life. Actual useful life may extend well beyond the estimated useful life.

As you cover the adjusting entries for depreciation, you will probably need to emphasize the following points:

1. A fixed asset must be owned and used by the business.
2. Depreciation expense is a noncash expense.
3. Depreciation is not related to the value of the asset (i.e., the market value of a fixed asset is not related to the fixed asset's book value).
4. The normal balance of the accumulated depreciation account is a credit.

TEACHING SUGGESTION—Use of an Accumulated Depreciation Account

To help students understand the purpose of accumulated depreciation contra accounts, show the following example:

	Company 1	**Company 2**
Net book value of equipment	$10,000	$10,000

Without using a contra account, both companies look identical. Now show the following:

	Company 1	**Company 2**
Equipment	$100,000	$11,000
Accumulated depreciation	90,000	1,000
Net book value of equipment	$ 10,000	$10,000

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What information does the contra account provide? First, the equipment is 90 percent depreciated in Company 1 and only about 9 percent depreciated in Company 2. Second, Company 1 originally invested nearly 10 times as much into its equipment as Company 2. Therefore, Company 1 is probably a much larger operation. Since Company 2 has recorded a smaller percentage of depreciation, it may be a younger organization. Conclusion: Companies 1 and 2 are quite different, and reporting only book values does not reveal the differences.

WRITING EXERCISE—Adjusting Entry for Depreciation

To see how well your students have grasped the concept of depreciation, ask them to write an answer to the following question (also shown on Handout 3-6):

> Assume that you are the accountant for Computer Consultants. Prior to this year, Computer Consultants operated out of a leased office. However, the company purchased its own office building this year. The building is in an area where real estate values have been increasing an average of 6 percent per year.
>
> The owner of Computer Consultants has asked why you recorded depreciation on the building if real estate values are appreciating. Write a response to the owner explaining why depreciation must be recorded on the company's accounting records.

Possible explanation: The response should address the fact that cost, accumulated depreciation, and ultimately book value are not trying to match the market value of an asset. The market value can go up or down, depending on the current economic climate. The goal of accounting for fixed assets is to spread the initial investment cost over a reasonable expected life of the asset. This cost is periodically transferred through the adjusting process and the accumulated depreciation account. Students should also mention the impact of expenses on net income and that spreading depreciation expense over the useful life of the asset will balance out the effects on net income. If the entire capital investment is taken in Year 1 against net income, that year's expenses will negatively impact net income for that accounting period. Although the tax consequences for that period would be favorable, the subsequent year would experience higher net income and therefore higher tax liabilities. The subsequent years would lack an expense to match the revenues that asset is helping generate. The systematic assignment of expense over a planned time provides a fair and logical assignment of expense against revenue for the foreseeable life of the asset.

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OBJECTIVE 5

Summarize the adjusting process.

SYNOPSIS

Exhibit 6 shows a summary of all the adjustments in this chapter. All adjustments must be completed prior to completing the financial statements for the period. Exhibit 7 shows the journal entry for each adjustment, and Exhibit 8 shows the result of the adjustments after posting in the general ledger.

Relevant Example Exercise and Exhibits

- Exhibit 6 – Summary of Adjustments
- Exhibit 7 – Adjusting Entries—NetSolutions
- Exhibit 8 – Ledger with Adjusting Entries—NetSolutions
- Example Exercise 3-8 – Effects of Adjustments

SUGGESTED APPROACH

This objective illustrates the posting of adjusting entries.

Handout 3-7 presents two exercises to assess your students' understanding of adjusting entries. The student is given the option to track account balances using T accounts or the "Effect of Adjusting Entry" column of the handout to determine account balances. The use of T accounts may be more intuitive for students. In order to be successful with this exercise, students must understand which accounts are increased and decreased as the result of the adjustment process.

Make sure to emphasize to students that adjustments are journal entries and all journal entries must be posted to the general ledger. These T accounts represent general ledger accounts; however, the official record is the general ledger, and the general ledger gets updated through the posting process.

The solution to Handout 3-7 is given in Handout 3-8.

OBJECTIVE 6

Prepare an adjusted trial balance.

SYNOPSIS

After journalizing and posting the adjusting entries, an adjusted trial balance is prepared. Exhibit 9 shows the adjusted trial balance for NetSolutions as of December 31, 2018, the end of the company's accounting period (fiscal year). The next chapter will show how the financial statements are prepared from this information.

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Key Term and Definition

- **Adjusted Trial Balance** - The trial balance prepared after all the adjusting entries have been posted.

Relevant Example Exercise and Exhibit

- Exhibit 9 – Adjusted Trial Balance
- Example Exercise 3-9 – Effect of Errors

SUGGESTED APPROACH

This objective introduces the adjusted trial balance. Explain to students that, like the unadjusted trial balance, the trial balance is merely copying information from the general ledger to the trial balance. The titles of accounts with balances are copied from the general ledger in the order in which they appear, and their balance is copied to the proper column (Debit or Credit) on the trial balance. The final step is to add the columns and compare the debit and credit balances. You may want to point out that, in the accounting cycle, the trial balance process is repeated three times: unadjusted trial balance, adjusted trial balance, and post-closing trial balance (Chapter 4). The process each time is the same; the only difference is the timing of when account balances change due to posting of journal entries.

Part 2 of Handout 3-7 presents an unadjusted trial balance and an adjusted trial balance. From this information, students are asked to deduce the adjusting entries that were recorded. The journal entries for Part 2 of the handout are listed on Handout 3-8.

This exercise in Handout 3-7 is similar to several of the end-of-chapter exercises and problems. After students have journalized the adjusting entries, you may want to ask them to write a brief explanation for each entry, such as “Insurance expired equals $190.” Many students will find it requires a higher level of understanding for them to work backwards through a problem.

OBJECTIVE 7

Describe and illustrate the use of vertical analysis in evaluating a company’s performance and financial condition.

SYNOPSIS

Vertical analysis is a comparison of an amount from a financial statement with a total amount from the same statement. The total amount chosen is identified as being 100 percent, and each line in the statement is shown as a percentage of that total. This analysis is useful for analyzing changes over time. As such, at a minimum, two years of financial data are needed. Vertical analysis is shown for J. Holmes, Attorney-at-Law and Pandora Media, Inc., using the income statement.

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Key Term and Definition

- **Vertical Analysis** - An analysis that compares each item in a current statement with a total amount within the same statement.

Relevant Example Exercise

- Example Exercise 3-10 – Vertical Analysis

SUGGESTED APPROACH

This objective introduces the value of vertical analysis as a tool to indicate relationships within a given financial statement. It is also often used to examine changes in these relationships between time periods, which in turn demonstrate how a company is performing.

It is valuable to compare the vertical analysis figures of a company against its industry averages. Averages are published by trade associations and financial information services. Significant differences should be investigated.

Handout 3-9 shows an example of what a vertical analysis of income statements for Music Express using figures from Handout 2-9 might look like. Note that while the June expenditures were greater than those in May, as a percentage of fees earned they were less than May's, resulting in a greater net income.

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Handout 3-1

MONTHLY EXPENSES—LOAN APPLICATION

Assume that you are filling out a loan application. The application asks you for your total monthly committed expenses for housing, transportation, insurance, and debt repayment. After reviewing your checkbook, you compile the following list:

Rent....................................	$375	each month
Utilities	110	each month–level billing
Car payment.......................	200	each month
Car insurance......................	480	every 6 months
Life insurance.....................	120	paid once per year
VISA..................................	20	each month (to pay off Florida vacation taken last year)

What is the total amount to be included on the loan application?

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Handout 3-2

MONTHLY EXPENSES—LOAN APPLICATION

(Solution)

Rent	$375
Utilities	110
Car payment	200
Car insurance	80
Life insurance	10
VISA	20
Total	$795

Note: The car and life insurance payments must be broken into a monthly amount. If the entire six-month car insurance and 12-month life insurance payment were included on the application, the monthly expenses would be overstated. Therefore, a monthly amount is computed and "matched" against the other expenses.

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Handout 3-3

ARTISAN STONE AND BRICK

During May, Artisan Stone and Brick laid a stone patio for Louise McCowan for a fee of $1,200. The job took one full week. Artisan's expenses associated with the job are as follows:

1. Decorative stones, $400. These stones were purchased on account. They will be paid for in June.
2. Cement, two $10 bags. The bags were purchased and paid for in April.
3. Wages paid to assistants, $200. These wages were paid at the end of the week.

In addition, Artisan spends approximately $600 per month on rent, utilities, and insurance for its office.

Compute Artisan's profit on the job, using the matching concept.

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Handout 3-4

ARTISAN STONE AND BRICK

(Solution)

Revenue		$1,200
Expenses:		
Stones	$400	
Cement	20	
Wages	200	
Office expense		
(1/4 of monthly total)	150	770
Profit		$ 430

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Handout 3-5

DEFERRALS AND ACCRUALS

1. A deferred expense occurs when you pay for an item or a service before it is actually used. List four expenses that you typically pay in advance.

2. A deferred revenue occurs when you receive a payment before you have actually earned it. List two times that you have been paid for a service or merchandise in advance.

3. An accrued expense occurs when you use an item or a service before you have paid for it. List four expenses that you typically pay "after the fact."

4. An accrued revenue occurs when you have earned revenue but you have not yet received payment. List two examples of revenues that you earn before you receive payment.

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Handout 3-6

WRITING EXERCISE

Assume that you are the accountant for Computer Consultants. Prior to this year, Computer Consultants operated out of a leased office. However, the company purchased its own office building this year. The building is in an area where real estate values have been increasing an average of 6 percent per year.

The owner of Computer Consultants has asked why you recorded depreciation on the building if real estate values are appreciating. Write a response to the owner explaining why depreciation must be recorded on the company's accounting records

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Handout 3-7, Part 1

Part 1: Zeller Company needs to record the following adjusting entries:

- Supplies on hand on December 31 were $10.
- Fees earned but not billed on December 31 were $55.
- Depreciation of equipment was estimated to be $20 for the year.

Use T accounts to record the effect of each adjusting entry and then determine the balances on Zeller's adjusted trial balance. You may also use the column labeled "Effect of Adjusting Entry" to track changes in account balances.

Zeller Company Unadjusted Trial Balance Dec. 31				Effect of Adjusting Entry	Zeller Company Adjusted Trial Balance Dec. 31			
		Debit	Credit				Debit	Credit
Cash	11	300			Cash	11		
Accounts Receivable	12	20			Accounts Receivable	12		
Supplies	14	80			Supplies	14		
Equipment	18	600			Equipment	18		
Accumulated Depreciation	19		30		Accumulated Depreciation	19		
Accounts Payable	21		240		Accounts Payable	21		
Mike Zeller, Capital	31		120		Mike Zeller, Capital	31		
Fees Earned	41		800		Fees Earned	41		
Wages Expense	51	150			Wages Expense	51		
Supplies Expense	52				Supplies Expense	52		
Depreciation Expense	56				Depreciation Expense	56		
Miscellaneous Expense	59	40			Miscellaneous Expense	59		
		1,190	1,190					

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Part 2: The unadjusted trial balance and the adjusted trial balance for Matrix Company are presented below. Compare the numbers on these trial balances to determine which adjusting entries were prepared by Matrix's accountant. Journalize the five adjusting entries on a separate sheet of paper. You may assume none of the accounts were affected by more than one adjusting entry.

Matrix Company
Trial Balances
Dec. 31

		Unadjusted				Adjusted	
		Debit	**Credit**			**Debit**	**Credit**
Cash	11	1,500		Cash	11	1,500	
Accounts Receivable	12	700		Accounts Receivable	12	700	
Supplies	14	200		Supplies	14	140	
Prepaid Insurance	15	400		Prepaid Insurance	15	210	
Equipment	18	5,000		Equipment	18	5,000	
Accum. Depr.—Equipment	19		800	Accum. Depr.—Equipment	19		1,600
Accounts Payable	21		600	Accounts Payable	21		600
Wages Payable	22		—	Wages Payable	22		130
Unearned Revenue	23		100	Unearned Revenue	23		30
Ken Reeves, Capital	31		500	Ken Reeves, Capital	31		500
Fees Earned	41		14,200	Fees Earned	41		14,270
Wages Expense	51	7,200		Wages Expense	51	7,330	
Rent Expense	52	1,200		Rent Expense	52	1,200	
Supplies Expense	53	—		Supplies Expense	53	60	
Insurance Expense	54	—		Insurance Expense	54	190	
Depreciation Expense	58	—		Depreciation Expense	58	800	
		16,200	16,200			17,130	17,130

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Handout 3-8

The solution to Part 1 of Handout 3-7 is presented below.

Zeller Company Unadjusted Trial Balance Dec. 31				Effect of Adjusting Entry	Zeller Company Adjusted Trial Balance Dec. 31			
		DR	CR				DR	CR
Cash	11	300			Cash	11	300	
Accounts Receivable	12	20		+ 55	Accounts Receivable	12	75	
Supplies	14	80		−70	Supplies	14	10	
Equipment	18	600			Equipment	18	600	
Accumulated Depreciation	19		30	+ 20	Accumulated Depreciation	19		50
Accounts Payable	21		240		Accounts Payable	21		240
Mike Zeller, Capital	31		120		Mike Zeller, Capital	31		120
Fees Earned	41		800	+ 55	Fees Earned	41		855
Wages Expense	51	150			Wages Expense	51	150	
Supplies Expense	52			+ 70	Supplies Expense	52	70	
Depreciation Expense	56			+ 20	Depreciation Expense	56	20	
Miscellaneous Expense	59	40			Miscellaneous Expense	59	40	
		1,190	1,190				1,265	1,265

The solution to Part 2 of Handout 3-7 is presented below.

Dec. 31	Supplies Expense	60	
	Supplies		60
31	Insurance Expense	190	
	Prepaid Insurance		190
31	Wages Expense	130	
	Wages Payable		130
31	Unearned Revenue	70	
	Fees Earned		70
31	Depreciation Expense	800	
	Accum. Depr.—Equip.		800

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Handout 3-9

Music Express

Income Statements

For the Months Ended May 31 and June 30

	June		May	
	Amt	Perc	Amt	Perc
Fees Earned	$2,100	100.0%	$1,300	100.0%
Operating expenses:				
Wages expense	$ 180	8.6%	$ 150	11.5%
Advertising expense	600	28.6	450	34.6
Total operating expenses	$ 780	37.2%	$ 600	46.1%
Net income	$1,320	62.8%	$ 700	53.9%

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