

Long-Term Assets

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CATEDRÁTICO – UPR RIO PIEDRAS
SEG. SEM. 2017-18*

Textbook: Financial Accounting, Spiceland

- This presentation contains information, in addition to the material prepared and provided by the professor, from the book Financial Accounting, 4th. Ed., Spiceland which is the textbook assigned for the course CONT 3105 – “Introducción a los Fundamentos de Contabilidad” at the University of Puerto Rico, Río Piedras Campus.

Topics

Topics

- 1.0 Classification of Long-Term Assets
- 2.0 Acquisitions - Tangible Assets
- 3.0 Acquisitions - Intangible Assets
- 4.0 Over the Life - Expenditures
- 5.0 Over the Life - Depreciation
- 6.0 Over the Life - Amortization
- 7.0 Asset Disposition

Classification of Long-Term Assets

Classification of Long-Term Assets

1.1 Categories

Classification of Long-Term Assets

1.1 Categories

- We classify long-term assets into two major categories:
 - 1. Tangible Assets:** Assets in this category include:
 - a. Land
 - b. land improvements
 - c. Buildings
 - d. Equipment
 - e. Natural resources.

Classification of Long-Term Assets

1.1 Categories

2. **Intangible Assets:** Assets in this category include:
 - a. Patents
 - b. Trademarks
 - c. Copyrights
 - d. Franchises
 - e. Goodwill

Classification of Long-Term Assets

1.1 Categories

2. **Intangible Assets:**

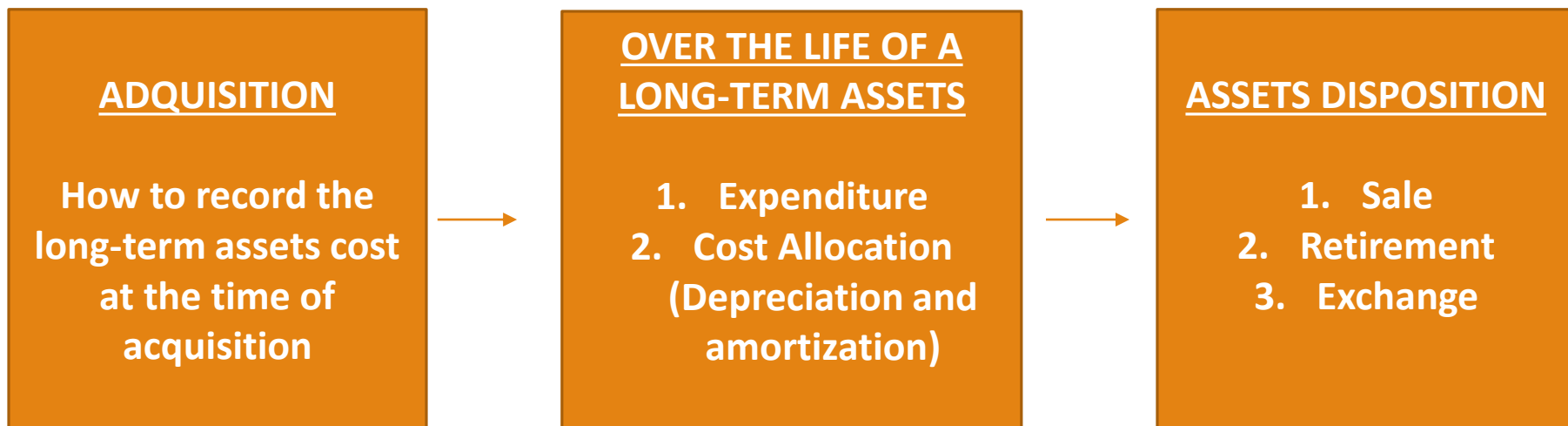
- We distinguish these assets from property, plant and equipment (tangible assets) by their lack of physical substance. The evidence of their existence often is based on a legal contract.

Classification of Long-Term Assets

1.2 Cycle of Long-Term Assets Life

Classification of Long-Term Assets

1.2 Cycle of Long-Term Assets Life



Acquisitions - Tangible Assets

Acquisitions - Tangible Assets

2.1 Capitalization

Acquisitions - Tangible Assets

2.1 Capitalization

- The property, plant and equipment category consists of land, land improvements, buildings, equipment, and natural resources.
- When a company acquires tangible assets the amount disbursed in the acquisition is recorded as an asset and then allocated as an expense over future period (ex. Depreciation)

Acquisitions - Tangible Assets

2.1 Capitalization

- The general rule for **recording all such long-term assets** is: We record a long-term asset at:
 1. its cost, plus
 2. all expenditures necessary to get the assets ready for use.

Acquisitions - Tangible Assets

2.1 Capitalization

- This rule for recording long-term asset is also known as **capitalization**.
- We **capitalize** the costs of acquiring an asset when the company benefits from having the asset exceeds the current period (more than one year).

Acquisitions - Tangible Assets

2.2 Land

Acquisitions - Tangible Assets

2.2 Land

- **Definition:**

- The Land account represents land a company is using in its operations.
- In contrast, land purchased for investment purposes is recorded in a separate investment account.

Acquisitions - Tangible Assets

2.2 Land

- **Capitalized Costs:**

1. Purchase price
2. Closing costs:
 - a. Fees for the attorney
 - b. Real estate agent commission
 - c. Title and title search
 - d. Recording fees (“Registro de la Propiedad”)

Acquisitions - Tangible Assets

2.2 Land

- **Capitalized Costs:**

3. Back taxes (such as property taxes) and other obligations paid by the buyer.
4. Preparing the Land (net from selling salvaged materials):
 - a. Clearing
 - b. Filling
 - c. Leveling
 - d. Removing existing buildings

Acquisitions - Tangible Assets

Example 1:

- On May 1, 2018, Vienna School Corporation purchased a tract of land with an existing building in \$250,000. The school paid \$2,500 in legal fees, \$10,000 to the real estate agent, \$1,500 in legal stamps and recording and \$4,000 in real estate taxes (\$3,000 back taxes). The company paid \$35,000 to tear down the building and remove it from the site. The School obtained \$5,000 from selling salvage materials.
 - *What amount should the school record as the total cost of the land?*

Acquisitions - Tangible Assets

Example 1:

- What amount should the school record as the total cost of the land?

COST OF LAND	
Purchase price	\$250,000
Real estate commission	10,000
Legal fees	2,500
Legal stamps and recording	1,500
Real estate taxes (back taxes)	3,000
Removing existing building	35,000
Less: Amount from selling salvage material	<u>(5,000)</u>
TOTAL COST OF LAND	<u>\$297,000</u>

Acquisitions - Tangible Assets

Example 1:

- *The journal entry to record the costs of the land follows:*

GENERAL JOURNAL				JE #
Date	Account Title	Ref.	Debit	Credit
May 01	Land		297,000	
	Cash			297,000
	<i>(Record costs to acquire Land.)</i>			

Acquisitions - Tangible Assets

2.3 Land Improvements

Acquisitions - Tangible Assets

2.3 Land Improvements

- **Definition:**

- The Land Improvements are additional amounts spent to improve the land site its acquisition.

Acquisitions - Tangible Assets

2.3 Land Improvements

- **Capitalized Costs:** The costs to building the following improvements:
 1. Parking lot
 2. Sidewalks
 3. Driveways
 4. Landscaping
 5. Lighting system
 6. Fences
 7. Sprinklers, and other similar additions.

Acquisitions - Tangible Assets

2.4 Building

Acquisitions - Tangible Assets

2.4 Building

- **Definition:**

- Buildings include administrative offices, retail stores, manufacturing facilities, and storage warehouses.

Acquisitions - Tangible Assets

2.4 Building

- **Capitalized Costs – Purchased Building**
 1. Purchase price
 2. Closing costs
 3. Additional cost to remodel or modify the building to suit company's needs.

Acquisitions - Tangible Assets

2.4 Building

- **Capitalized Costs – Constructed Building**
 1. Architect fees
 2. Material costs
 3. Construction labor
 4. Overhead (costs indirectly related to the constructions)
 5. Interest costs incurred during construction.

Acquisitions - Tangible Assets

2.5 Equipment

Acquisitions - Tangible Assets

2.5 Equipment

- **Definition:**
 - Equipment is a broad term that includes:
 1. Machinery used in manufacturing
 2. Computers and other office equipment
 3. Vehicles
 4. Furniture and fixtures

Acquisitions - Tangible Assets

2.5 Equipment

- **Capitalized Costs:**

1. Purchase price
2. Sales tax
3. Shipping
4. Delivery insurance
5. Assembly
6. Installation
7. Testing
8. Legal fees

Acquisitions - Tangible Assets

2.5 Equipment

- **Capitalized Costs:** The recurring costs related to equipment, such as annual property taxes, annual property insurance, and maintenance are expensed as the company incurs them.

Acquisitions - Tangible Assets

Example 2:

- On May 3, 2018, Vienna School Corporation purchased new music equipment for \$8,000. The school paid \$920 in sales taxes, \$250 in freights to transport the equipment and \$75 in shipping insurance. It was necessary to pay \$350 for installation. The School paid \$500 annual insurance on the equipment.
 - *What amount should the school record as the total cost of the equipment?*

Acquisitions - Tangible Assets

Example 2:

- *What amount should the school record as the total cost of the equipment?*

COST OF EQUIPMENT	
Purchase price	\$8,000
Sales Taxes	920
Freight on transportation	250
Shipping insurance	75
Installation	350
TOTAL COST OF LAND	<u>\$9,595</u>

- *What about the \$500 paid for annual insurance?*

Acquisitions - Tangible Assets

Example 2:

- *What about the \$500 paid for annual insurance?*
 - *The \$500 paid as the annual insurance of the equipment is a prepaid expense.*
 - *The \$500 is allocated to insurance expense over the first year of coverage.*

Acquisitions - Tangible Assets

Example 2:

- *The journal entries to record the costs associated with the purchase of the equipment follow:*

GENERAL JOURNAL				JE #
Date	Account Title	Ref.	Debit	Credit
May 03	Land		9,595	
	Cash			9,595
	<i>(Record costs to acquire equipment.)</i>			
May 03	Prepaid insurance		500	
	Cash			500

Acquisitions - Tangible Assets

2.6 Natural Resources

Acquisitions - Tangible Assets

2.6 Natural Resources

- **Definition:**
 - Natural resources include:
 1. Oil
 2. Natural gas
 3. Timber
 4. Minerals
 5. Others

Acquisitions - Tangible Assets

2.6 Natural Resources

- **Capitalization:**

- The main cost of a natural resource to be capitalized is the acquisition costs. However, there are other costs associated with the natural resources which are explained in advanced accounting courses.
- However, the most important is that you can distinguish that a natural resource, as compared with other property, plant and equipment, is physically used up, or depleted. The depletion concept will be discussed later in this presentation.

Acquisitions - Tangible Assets

2.7 Basket Purchased

Acquisitions - Tangible Assets

2.7 Basket Purchased

- The **basketed purchase** is referred when a company purchase more than one asset at the same time for one purchase price.
- The problem with purchasing multiple assets simultaneously with only one price is how will the company record the acquisition on the books?

Acquisitions - Tangible Assets

2.7 Basket Purchased

- To solve this situation, the company must allocate the total purchase price based on the estimated fair market value of each of the individual assets.
- **Estimated fair market values** are estimates of what the separate assets are worth.

Acquisitions - Tangible Assets

Example 3:

- Assume Vienna School purchase a land, building and equipment in one total purchase price of \$500,000. The fair market value of the land, building and equipment are \$300,000, \$250,000 and \$50,000, respectively.
 - *What much should the school record in the separate accounts for land, building and equipment?*

Acquisitions - Tangible Assets

Example 3:

- *What much should the school record in the separate accounts for land, building and equipment?*

Asset	Fair Market Value	Allocation	%	Amount of Basket Purchase	Cost per Asset
Land	\$300,000	\$300,000/\$600,000	50%	X \$500,000	\$250,000
Building	250,000	\$250,000/\$600,000	42%	X \$500,000	210,000
Equipment	<u>50,000</u>	\$50,000/\$600,000	8%	X \$500,000	<u>40,000</u>
Total	<u>\$600,000</u>		<u>100%</u>		<u>\$500,000</u>

Acquisitions - Tangible Assets

Example 3:

- *The journal entry to record the costs associated with the purchase of the land, building and equipment follows:*

GENERAL JOURNAL				JE #
Date	Account Title	Ref.	Debit	Credit
-	Land		250,000	
	Building		210,000	
	Equipment		40,000	
	Cash			500,000
	(Record the costs to acquire assets)			

Acquisitions - Intangible Assets

Acquisitions - Intangible Assets

3.1 Introduction

- The **intangible assets** have no physical substance.

Assets in this category include:

1. Patents
2. Trademarks
3. Copyrights
4. Franchises
5. Goodwill

Acquisitions - Intangible Assets

3.1 Introduction

- Despite their lack of physical substance, intangible assets can be very valuable indeed.
- Companies acquire intangible assets in two ways:
 1. They purchase intangible assets from other companies.
 2. They develop intangible assets internally.

Acquisitions - Intangible Assets

3.1 Introduction

- The reporting rules for intangible assets vary depending whether the company purchased the asset or developed it internally. The general rule follows:
 1. **Purchased Intangible:** We record purchased intangible assets at their original cost plus all other costs necessary to get the assets ready for use. (similar as property, plant and equipment)
 2. **Developed Intangible:** We expense in the income statement most of the costs for internally developed intangible assets in the period incur those costs.

Acquisitions - Intangible Assets

3.1 Introduction

- The reason we expense most of the internally developed intangible assets costs is the difficulty in determining the portion of such costs that benefits future periods.
- Let's discuss each of the most important intangible assets.

Acquisitions - Intangible Assets

3.2 Patent

Acquisitions - Intangible Assets

3.2 Patent

- **Definition:** A **patent** is an exclusive right to manufacture a product or to use a process. The U.S. Patent and Trademark Office grants this right for period of 20 years.

Acquisitions - Intangible Assets

3.2 Patent

- **Recording Costs:**

- 1. **Purchased Patent:**

- The company records its purchase as an intangible assets as its purchase price plus other costs such as legal and filing fees to secure patent (U.S. Patent and Trademark Office).
 - The legal costs incurs by the company to defend the exclusive rights to use the patent are recorded as an asset.

Acquisitions - Intangible Assets

3.2 Patent

- **Recording Costs:**

- 2. **Developed Patent:**

- The company expenses the research and development costs as it incurs them.
 - The filing fees and the legal fees incurs by the company to register or to defend the exclusive rights the patent are recorded as an asset.

Acquisitions - Intangible Assets

3.3 Copyrights

Acquisitions - Intangible Assets

3.3 Copyrights

- **Definition:**

- A **copyright** is an exclusive right of protection given by the U.S. Copyright Office to the creator of a published work such as a song, painting, photograph, book, or computer software.
- Copyrights are protected by law and give the creator (and his or her heirs) the exclusive right to reproduce and sell the artistic or published work for the life of the creator plus 70 years.

Acquisitions - Intangible Assets

3.3 Copyrights

- **Recording Costs:**
 - Accounting for the costs of copyrights is virtually identical to that of patents.

Acquisitions - Intangible Assets

3.4 Trademarks

Acquisitions - Intangible Assets

3.4 Trademarks

- **Definition:**

- A **trademark**, like the name of **Apple** or **Coca Cola**, is a word, slogan, or symbol that distinctively identifies a company, product, or service.
- The company can register its trademark in the U.S. Patent and Trademark Office to protect it from use by others for a period of 10 years. The registration can be renewed for an indefinite number of 10-year periods.

Acquisitions - Intangible Assets

3.4 Trademarks

- **Recording Costs:**

- 1. Purchased Trademark:**

- The company records its purchase as an intangible **assets** as its purchase price plus other costs such as legal and filing fees to secure trademark (U.S. Patent and Trademark Office).
- In addition, a firm can record successful legal defense, and other costs directly related to securing the trademark as an intangible **asset**.

Acquisitions - Intangible Assets

3.4 Trademarks

- **Recording Costs:**

- 2. **Developed Trademarks:**

- The company can record design costs, registration fees, attorney fees, and successful legal defense as an intangible **asset**.

Acquisitions - Intangible Assets

3.5 Franchises

Acquisitions - Intangible Assets

3.5 Franchises

- **Definition:**

- Many popular retail businesses such as restaurants, auto dealerships, and hotels are set up as franchises. Ex. McDonald's, Subway.
- A **franchise** is a local outlet that pay for the exclusive right to use the franchisor company's name and to sell its products within a specified geographical area.
- Many franchisors provide other benefits to the franchisee, such as participating in the construction of the retail outlet, training employees, and purchasing national advertising.

Acquisitions - Intangible Assets

3.5 Franchises

- **Recording Costs:**

1. **Cost of Franchise:**

- To record the cost of a franchise, the franchisee records the initial fee as an intangible **asset**.
- Additional periodic payments to the franchisor usually are for services the franchisor provides on a continuing basis, and the franchisee will **expense** them as incurred.

Acquisitions - Intangible Assets

3.6 Goodwill

Acquisitions - Intangible Assets

3.6 Goodwill

- **Definition:**

- The **goodwill** is recorded ONLY when one company acquires another company.
- Goodwill is recorded by the acquiring company for the amount that the purchase price exceeds the fair market value of the acquired company's identifiable net assets.

Acquisitions - Intangible Assets

Example 4:

- John acquires a gas station by \$1,100,000. The fair market value (FMV) of the assets and liabilities of the gas station as of the date of purchases follow:

ASSETS (FMV)		LIABILITIES (FMV)	
Inventory	\$400,000	Accounts payable	\$50,000
Land	250,000	Note payable	<u>200,000</u>
Building	500,000	Total liabilities	<u>\$250,000</u>
Equipment	<u>150,000</u>		
Total Assets	<u>\$1,300,000</u>		

- What is the amount of goodwill and how John will record the cost of these assets?

Acquisitions - Intangible Assets

Example 4:

- What is the amount of goodwill and how John will record the cost of these assets?

Description		
Purchase Price		\$1,100,000
Less:		
Fair value assets acquired	\$1,300,000	
Less: Fair value liabilities	<u>250,000</u>	
Fair value of identifiable net assets		<u>1,050,000</u>
Goodwill		<u>\$50,000</u>

Acquisitions - Tangible Assets

Example 4:

- What is the amount of goodwill and how John will record the cost of these assets?

GENERAL JOURNAL				JE #
Date	Account Title	Ref.	Debit	Credit
-	Inventory		400,000	
	Land		250,000	
	Building		500,000	
	Equipment		150,000	
	Goodwill		50,000	
	Accounts payable			50,000
	Notes Payable			200,000
	Cash			1,100,000

Over the Life – Expenditures

Over the Life – Expenditures

4.1 Introduction

Over the Life – Expenditures

4.1 Introduction

- Over the life of a long-term asset, the owners often incur additional expenditures for repair and maintenance, additions, improvements, or litigation costs.
- These expenditures will be capitalized as long as they increase future benefits. We expense an expenditure if it benefits only the current period.

Over the Life – Expenditures

4.2 Repair and Maintenance

Over the Life – Expenditures

4.2 Repair and Maintenance

- We expense **repairs and maintenance** expenditures, such as engine tune-up or the repair of an engine part for a delivery truck, in the period incurred because they maintain a given level of benefits.
- However, we capitalize as assets more extensive repairs that increase the future benefits of an asset. In the case of a delivery truck, a new transmission or an engine overhaul is an intensive repair that increase the future benefit of the truck.

Over the Life – Expenditures

4.3 Additions and Improvements

Over the Life – Expenditures

4.3 Additions and Improvements

- **Additions:** An **addition** occur when we add a new major component to an existing asset. We should capitalize the cost of additions if they increase, rather than maintain, the future benefit from the expenditure.
 - *Example:* A new engine to the delivery truck.
 - *Example:* A second floor to the office building.

Over the Life – Expenditures

4.3 Additions and Improvements

- **Improvements:** An **improvement** is the cost of replacing a major component of an asset. The replacement can be a new component with the same characteristics as the old component, or a new component with enhanced operating capabilities.

Over the Life – Expenditures

4.4 Materiality

Over the Life – Expenditures

4.4 Materiality

- **Materiality** relates to the size of an item that is likely to influence a decision. An item is said to be **material** if it is large enough to influence a decision.
- Materiality is an important consideration in the “capitalize versus expense” decision.
- For example, companies generally expense all costs under a certain amount, let’s say \$1,000, regardless of whether future benefits are increased.

Over the Life – Depreciation

Over the Life – Depreciation

5.1 Depreciation

Over the Life – Depreciation

5.1 Depreciation

- **Depreciation** in accounting is allocating the cost of an asset to an expense over its service life. An asset benefits (revenues) to a company in future periods. We allocate a portion of the asset's cost to depreciation expense in each year the asset provides a benefit.
- Depreciation is not a valuation process, it only allocates as an expense a portion of the cost of an asset.
- Depreciation is only calculated for those assets used in the operations of the company.

Over the Life – Depreciation

5.2 Method of Depreciation

Over the Life – Depreciation

5.2 Method of Depreciation

- The three most common depreciation methods used in practice follow:
 1. Straight-line
 2. Declining-balance
 3. Activity-based

Over the Life – Depreciation

5.3 Straight-Line Method

Over the Life – Depreciation

5.3 Straight-Line Method

- With the **straight-line method**, we allocate an equal amount of the depreciable cost to each year of the asset's service life (useful life).
- **Depreciable cost** is the asset's cost minus its estimated residual value.
- Depreciation Expense =
$$\frac{\text{Depreciable Cost (cost – residual value)}}{\text{Service Life}}$$

Over the Life – Depreciation

Example 5:

- The Vienna School equipment' cost is \$100,000 with a residual value of \$10,000 and a service life of 9 year. The annual depreciation is \$10,000 using straight-line method calculated as follows.

$$\mathbf{\$10,000 = \frac{\mathbf{\$90,000}}{\mathbf{9 \text{ yrs.}}} (\$100,000 - \$10,000)}$$

Over the Life – Depreciation

Example 6:

- Refer to **Example 5**: Assume the equipment was purchased on August 1, and the School accounting closing date is December 31. The annual depreciation, then, must be allocated just to the five (5) months the assets was on service during the accounting year as follows.

$$\mathbf{\$10,000 \times 5/12 = \$4,167 \text{ depreciation expense.}}$$

Over the Life – Depreciation

5.3 Straight-Line Method

- Depreciation is an estimate. Consequently, company's management can change the estimates assumed for an asset regarding the service life or residual value.
- If a **change in estimate** is required, the company changes depreciation in current and future year, but no in prior years.

Over the Life – Depreciation

Example 7:

- Refer to **Example 5**: Assume the School recorded as depreciation expense for the equipment the amount of \$10,000 in **Year 1** as calculated in the Example 5. In **year 2** the management changed the estimated service life from 9 years to 5 years.
- *How much should the School record each year for depreciation in years 2 to 5?*

Over the Life – Depreciation

Example 7:

- *How much should the School record each year for depreciation in years 2 to 5?*

Description	Amount
Cost	\$100,000
Less: Accumulated Depreciation (1 year)	<u>(10,000)</u>
Book Value	90,000
Less: Residual Value	<u>10,000</u>
Depreciable cost	80,000
Divided by remaining estimated service life (New estimated 5 years less 1 year of Year 1)	4 years
Annual Depreciation in Years 2 to 5	\$20,000

Over the Life – Depreciation

5.4 Declining-Balance Method

Over the Life – Depreciation

5.4 Declining-Balance Method

- **Definition:**
 - The **declining-balance method** is an accelerated depreciation method.
 - This method utilizes a **depreciation rate**, expressed as a percentage, that is some multiple of the straight-line method.

Over the Life – Depreciation

5.4 Declining-Balance Method

- **Computation of Depreciation Rate:**
 - The depreciation rate we use under the declining-balance method is a multiple of the straight-line rate, such as 125%, 150% or 200% of the straight-line rate.

Over the Life – Depreciation

5.4 Declining-Balance Method

- **Computation of Depreciation Rate:**
 - For **example**, a property that is depreciated using straight-line method over a service life of 10 years, the depreciation rate is 10% (1/10).
 - Therefore, if a company is using the **double-declining balance method** (200%), the depreciation rate is 20% (10% x 200% or 10% x 2)
 - If a company is using the **150% declining balance method**, the depreciation rate is 15% (10% x 150% or 10% x 1.5).

Over the Life – Depreciation

5.4 Declining-Balance Method

- **Computation of Depreciation Expense:**
 - To calculate annual depreciation, the company must apply the following formula:

$$\text{Book Value of Asset} \times \text{Depreciation Rate} = \text{Annual Depreciation}$$

- Remember that **book value** is the cost less accumulated depreciation.
- For declining-balance method, the company does not take into consideration the residual value in the computation of the annual depreciation.

Over the Life – Depreciation

Example 8

- Refer to **Example 5**. Using straight-line method, Vienna School calculated an annual depreciation for the \$100,000 equipment, with a residual value of \$10,000 and 9 year service life in \$10,000, equivalent to a depreciation rate of 11.11% (1/9).
- Assume the School depreciates the equipment using double-declining balance. The depreciation rate is 22.22% (11.11% x 2). See the on next page a table showing the annual depreciation calculation for the equipment.

Over the Life – Depreciation

Example 8

Year	Beginning Book Value	Depreciation Rate	Depreciation Expense	Accumulated Depreciation	Book Value
1	\$100,000	22.22%	\$22,220	\$22,220	\$77,780
2	77,780	22.22%	17,282	39,502	60,498
3	60,498	22.22%	13,443	52,945	47,055
4	47,055	22.22%	10,456	63,401	36,599
5	36,599	22.22%	8,132	71,533	28,467
6	28,467	22.22%	6,325	77,858	22,142
7	22,142	22.22%	4,920	82,778	17,222
8	17,222	22.22%	3,827	86,605	13,395
9	13,395	22.22%	2,976	89,581	10,419
10	10,419		419	90,000	10,000

Over the Life – Depreciation

Example 8

- Pay attention in the last year, the annual depreciation is not calculated using the depreciation rate. Instead, depreciation expense in the final year is the amount (\$419) that reduces book value (\$10,419) to the estimated residual value of \$10,000.

Year	Beginning Book Value	Depreciation Rate	Depreciation Expense	Accumulated Depreciation	Book Value
9	13,395	22.22%	2,976	89,581	10,419
10	10,419		419	90,000	10,000

Over the Life – Depreciation

5.4 Declining-Balance Method

- Declining-balance depreciation will be higher than straight-line depreciation in earlier years, but lower in later years.
- However, both declining-balance and straight-line will result in the same total depreciation over the asset's service life.

Over the Life – Depreciation

5.5 Activity-Based Method

Over the Life – Depreciation

5.5 Activity-Based Method

- **Definition:**

- In an **activity-based method**, we allocate an asset's cost based on its **use**, instead in straight-line or declining-balance methods that we measure depreciation based on time.
- A company considers the life of the asset in terms of either the **output** it provides (units it produces) or an **input** measure such as the number of hours it works. [**Kieso**]
- For **example**, we could measure the service life of a machine in terms of its output (units, pounds, barrels) or in a delivery trucks whose use can be measured in miles.

Over the Life – Depreciation

5.5 Activity-Based Method

- **Calculation:**

- We need to compute the average depreciation rate per unit as follows:

$$\text{Depreciation Rate} = \frac{\text{Depreciable Cost (Cost – residual value)}}{\text{Total Units Expected to be Produced}}$$

Over the Life – Depreciation

Example 9:

- Vienna School purchases a vehicle to be used in the operations. The purchase price is \$25,000 with a residual value of \$5,000. The school uses the activity-based depreciation method to depreciate the vehicle. The vehicle is expected to be driven 100,000 miles during its service life.
- *What is the depreciation expenses for the vehicle if the actual miles driven in Year 1 was 20,000.*

Over the Life – Depreciation

Example 9:

- *What is the depreciation expenses for the vehicle if the actual miles driven in Year 1 was 20,000.*

- **First, we calculate the Depreciation Rate:**

$$\begin{aligned} \$0.20 = & \frac{\$20,000 (\$25,000 - \$5,000)}{100,000 \text{ miles}} \end{aligned}$$

- **Then, we apply the depreciation rate to the miles driven in Year 1**

$$20,000 \text{ miles driven} \times \$0.20 = \$4,000 \text{ Depreciation Expense}$$

Over the Life – Depreciation

5.6 Tax Depreciation

Over the Life – Depreciation

5.6 Tax Depreciation

- For tax purposes, the taxpayers use the Internal Revenue Service's prescribed accelerated method, called MACRS, for income taxes.
- **MACRS** combines declining-balances methods in earlier years with straight-line in later years to allow for a more advantageous tax depreciation deduction.
- Congress, not accountants, approved MACRS rules to encourage greater investment in long-term asset by U.S. companies.

Over the Life – Amortization

Over the Life – Amortization

6.1 Introduction

Over the Life – Amortization

6.1 Introduction

- Allocating the cost of property, plant, and equipment to expense is called depreciation. Similarly, allocating the cost of intangible assets to expense is called **amortization**.
- There are intangible assets subject to amortization. In contrast, there are intangible assets not subject to amortization.

Over the Life – Amortization

6.2 Intangible Assets Subject to Amortization

Over the Life – Amortization

6.2 Intangible Assets Subject to Amortization

- The intangible assets subject to amortization are those having a finite useful life that we can estimate.
- The service life of an intangible asset usually is limited by legal, regulatory, or contractual provision.

Over the Life – Amortization

6.2 Intangible Assets Subject to Amortization

- Intangible assets subject to amortization are:
 1. Patents
 2. Copyrights
 3. Trademarks (with finite life)
 4. Franchises

Over the Life – Amortization

6.2 Intangible Assets Subject to Amortization

- One of the most common intangible assets subject to amortization is the **Patent**. The Patent legal life is 20 years. However, the estimated useful life of a patent often is less than 20 years if the benefits are not expected to continue for the patent's entire legal life.
- For **example**, some electronic devices become outdated in a shorter period and the estimated useful life is less than 20 years.

Over the Life – Amortization

6.2 Intangible Assets Subject to Amortization

- **Amortization:**
 - Most companies use straight-line amortization for intangibles.
 - Also, many companies credit amortization to the intangible asset account itself rather than to accumulated amortization.

Over the Life – Amortization

6.3 Intangible Assets Not Subject to Amortization

Over the Life – Amortization

6.3 Intangible Assets Not Subject to Amortization

- The companies do not amortize intangible assets with indefinite (unknown or not determinable) useful lives.
- Intangible assets not subject to amortization are:
 1. Goodwill
 2. Trademarks (with indefinite life)

Over the Life – Amortization

6.3 Intangible Assets Not Subject to Amortization

- In order to avoid to disclose in financial statement intangible assets (those not subject to amortization) for their original cost forever, the management must review long-term assets for a potential write-down when events or changes in circumstances indicate the asset's **recoverable amount** is less than its recorded amount in the accounting records.

Asset Disposition

Asset Disposition

7.1 Sale of Long-Term Assets

Asset Disposition

7.1 Sale of Long-Term Assets

- A **sale** is the most common method to dispose of an asset. Selling a long-term asset can result in either a gain or a loss.
- We record a gain if we sell the asset for more than its **book value** (cost – accumulated depreciation). Similarly, we record a loss if we sell the asset for less than its book value.
- A **gain** is a credit balance account like other revenue account; a **loss** is a debit balance account like other expense account.

Asset Disposition

Example 10:

- Vienna School sells the equipment at the end of the Year 3 in \$85,000. The school uses the straight-line method of depreciation (information on **Example 5**).
- *What is the gain or loss in the disposition of the equipment and how the school records this transaction?*

Asset Disposition

Example 10:

- *What is the gain or loss in the disposition of the equipment and how the school records this transaction?*
- **First, we need to calculate the book value.**

Description	Amount
Cost	\$100,000
Less: Accumulated Depreciation (\$10,000 annual depreciation x 3 years)	<u>(30,000)</u>
Book Value	\$70,000

Asset Disposition

Example 10:

- *What is the gain or loss in the disposition of the equipment and how the school records this transaction?*
- **Second, we calculate the gain or loss in disposition.**

Description	Amount
Selling Price	\$85,000
Less: Book Value	<u>(70,000)</u>
Gain on Disposition of Asset	<u>\$15,000</u>

Acquisitions - Tangible Assets

Example 10:

- *What is the gain or loss in the disposition of the equipment and how the school records this transaction?*
- **Third, we record the sale by removing the equipment from the general ledger.**

GENERAL JOURNAL				JE #
Date	Account Title	Ref.	Debit	Credit
-	Cash		85,000	
	Accumulated Depreciation		30,000	
	Equipment			100,000
	Gain on Disposition of Asset			15,000
	(Record the sale of equipment.)			

Asset Disposition

Example 11:

- Refer to **Example 10**. Assume the School sells the equipment at the end of the Year 3 in \$60,000.
 - *What is the gain or loss in the disposition of the equipment and how the school records this transaction?*

Asset Disposition

Example 11:

- *What is the gain or loss in the disposition of the equipment and how the school records this transaction?*
- **First, the book value does not change.**
- **Second, we calculate the gain or loss in disposition.**

Description	Amount
Selling Price	\$60,000
Less: Book Value	<u>(70,000)</u>
Loss on Disposition of Asset	<u>\$10,000</u>

Acquisitions - Tangible Assets

Example 11:

- *What is the gain or loss in the disposition of the equipment and how the school records this transaction?*
- **Third, we record the sale by removing the equipment from the general ledger.**

GENERAL JOURNAL				JE #
Date	Account Title	Ref.	Debit	Credit
-	Cash		60,000	
	Accumulated Depreciation		30,000	
	Loss on Disposition of Asset		10,000	
	Equipment			100,000
	(Record the sale of equipment.)			

Asset Disposition

7.2 Retirement of Long-Term Assets

Asset Disposition

7.2 Retirement of Long-Term Assets

- When a long-term asset is no longer useful but cannot be sold, we have a **retirement**.
- In order to record the retirement of a long-term asset, the company must follow the three steps discussed on sales:
 1. Calculate book value.
 2. Calculate gain or loss in retirement.
 - Most of the time company does not receives any amount in the disposition, recording a loss.
 3. Record the retirement by removing the long-term asset from the general ledger.

Asset Disposition

7.3 Exchange of Long-Term Assets

Asset Disposition

7.3 Exchange of Long-Term Assets

- An **exchange** occurs when two companies trade assets. In an exchange, we often use cash to make up for any difference in fair value between the assets.
- When a company exchanges assets, the new asset is recorded at its fair value and the old asset is removed from the general ledger. The gain or loss in the transaction is recorded.

Asset Disposition

Example 12:

- Refer to **Example 10**. Assume Vienna School, instead of selling the equipment, exchanges the equipment for a new one of Berlin School value \$80,000. No cash was paid in the exchange.
 - *What is the gain or loss in the disposition of the equipment and how the school records this transaction?*

Asset Disposition

Example 12:

- *What is the gain or loss in the disposition of the equipment and how the school records this transaction?*
- **First, we always calculate the book value. As previously calculated is \$70,000.**

Asset Disposition

Example 12:

- *What is the gain or loss in the disposition of the equipment and how the school records this transaction?*
- **Second, we calculate the gain or loss in disposition. We compare the fair value of the new equipment with the book value of the old equipment.**

Description	Amount
New Equipment (Fair Value)	\$80,000
Less: Book Value (old equipment)	<u>(70,000)</u>
Gain on Disposition of Asset	<u>\$10,000</u>

Acquisitions - Tangible Assets

Example 12:

- *What is the gain or loss in the disposition of the equipment and how the school records this transaction?*
- **Third, we record the new equipment and remove the old equipment from the general ledger.**

GENERAL JOURNAL				JE #
Date	Account Title	Ref.	Debit	Credit
-	Equipment (new)		80,000	
	Accumulated Depreciation		30,000	
	Equipment			100,000
	Gain on Disposition of Asset			10,000
	(Record the exchange of equipment.)			