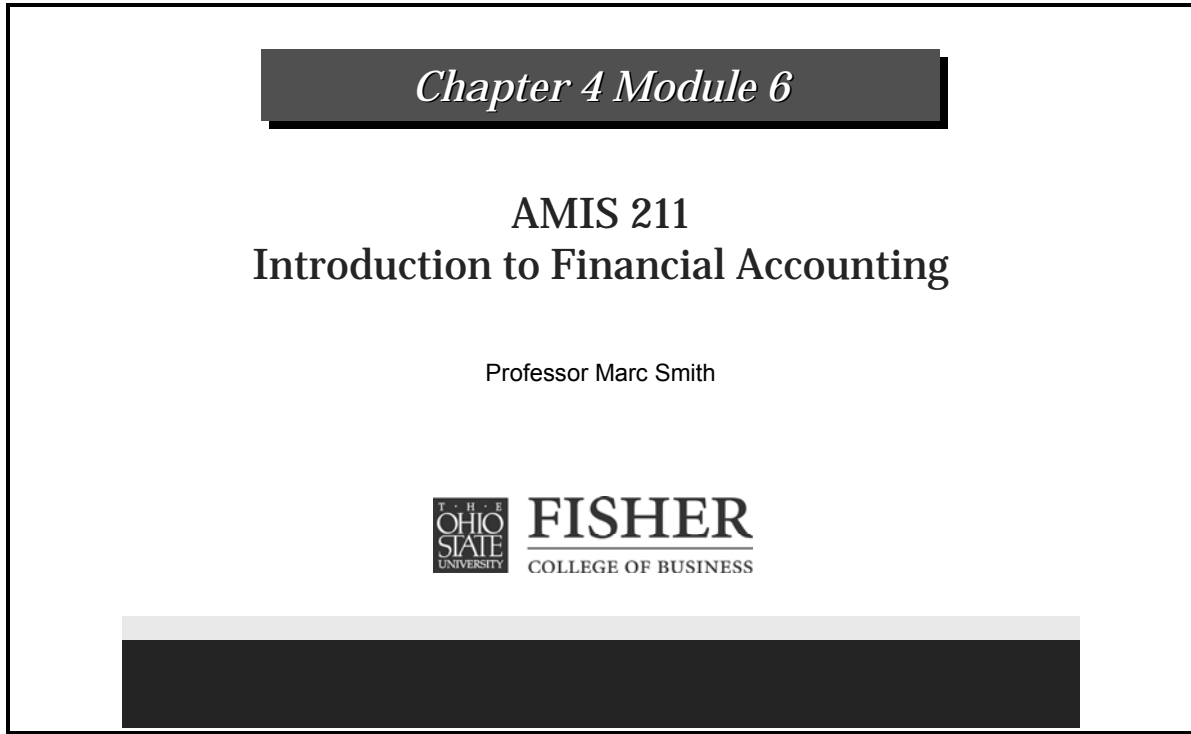


## Chapter 4, Module 6 - Depreciation

### Slide 1

The slide content is enclosed in a black rectangular border. At the top, there is a dark grey horizontal bar with the text "Chapter 4 Module 6" in a white, italicized serif font. Below this bar, the text "AMIS 211" is centered in a bold, black, sans-serif font. Underneath "AMIS 211", the text "Introduction to Financial Accounting" is centered in a bold, black, serif font. Below the title, the text "Professor Marc Smith" is centered in a smaller, black, sans-serif font. At the bottom of the slide, there is a logo for Fisher College of Business at Ohio State University. The logo consists of a small square with "T · H · E" above "OHIO STATE UNIVERSITY" and the word "FISHER" in a large, bold, serif font to its right, with "COLLEGE OF BUSINESS" in a smaller, sans-serif font below it. At the very bottom of the slide, there is a dark grey horizontal bar.

Hi everyone. Welcome back.

Now that we have talked about the basic Deferrals and Accruals in terms of making adjustments, let's look at a couple of specific examples of these Deferrals and Accruals.

And, in this particular module, let's talk a little bit about Depreciation.

So, let's go ahead and get right into it.

And, let's go to the next slide.

Slide 2

***Chapter 4 Module 6: Depreciation***

- **Depreciation is the systematic allocation of the cost of a plant asset (buildings and equipment) to expense over its useful life.**
- **Think of depreciation as the ‘using up’ of buildings and equipment.**
- **Thus, an adjusting entry is needed every year to record the amount of the buildings and equipment that have been ‘used up’.**

And, let’s start with a basic definition of Depreciation.

Depreciation is defined as: the systematic allocation of the cost of a Plant Asset—Plant Assets are buildings and equipment—so, the systematic allocation of the cost of a Plant Asset to Expense over its useful life.

That is kind of a mouthful.

Think of Depreciation as simply the “using up” of buildings and equipment.

We have kind-of seen that term before—this idea of “using up.” So, just think of Depreciation as the using up of these Plant Assets—buildings and equipment.

Now, we know that whenever some Asset gets used up that makes it an Expense.

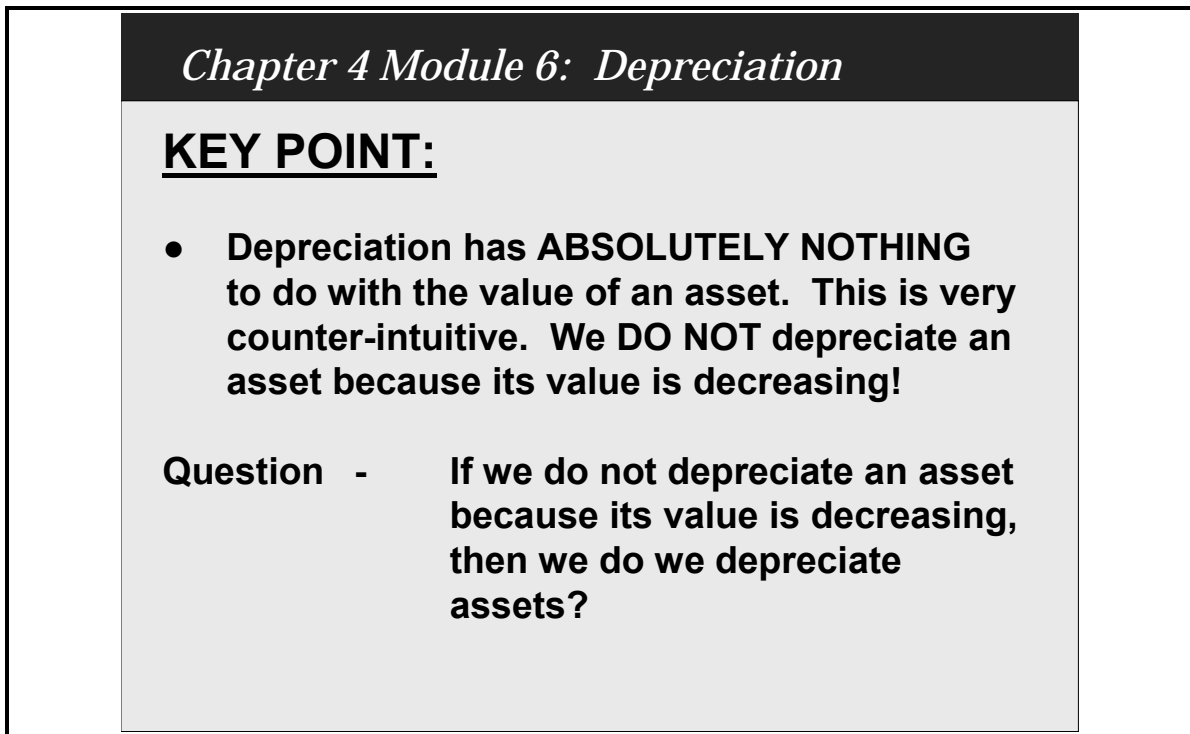
So, we are going to need an adjustment at the end of every accounting period to recognize the fact that some of the buildings and equipment have been used up and transferred over to the Income Statement as an Expense.

Hence, the name, or the idea, in that very top definition: “the allocation of the cost of a Plant Asset to Expense over its useful life.”

We know as an Asset gets used up, it becomes an Expense.

Let’s go ahead to the next slide.

Slide 3

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***Chapter 4 Module 6: Depreciation***

**KEY POINT:**

- **Depreciation has ABSOLUTELY NOTHING to do with the value of an asset. This is very counter-intuitive. We DO NOT depreciate an asset because its value is decreasing!**

**Question - If we do not depreciate an asset because its value is decreasing, then we do we depreciate assets?**

And, I think we see a very key point to recognize about Depreciation.

And, I want you to be comfortable with this. It is something that is rather counterintuitive.

Depreciation is NOT related to the value of an Asset. It has absolutely nothing to do with the value of an Asset.

And, like I said, I do think this is counterintuitive.

My guess is that: most of you have heard this statement: “Don’t buy a new car.”

Because as soon as you buy a new car and drive it off of the lot, it “depreciates” in value—meaning the value has decreased. And, in that context, that is fine.

But, in an Accounting context: “Depreciation” is completely independent from the Asset’s value—it is not related to the decline in an Asset’s value.

All Depreciation is: is the using up of an Asset. We do not depreciate an Asset because its value is decreasing.

So, the question, then, becomes:

If we do not depreciate an Asset because its value is decreasing, well, why do we?

What is Depreciation?

Why do we even bother doing it?

Go to the next slide and let’s answer that question.

Slide 4

***Chapter 4 Module 6: Depreciation***

**Answer - The MATCHING CONCEPT.**

**Think back to previous modules and our discussion of prepaid insurance and prepaid rent. We were required to record those items as expenses not when they were paid for, but rather when they were used up. The reason for that was the matching concept - record expenses in the period they are used up and help to generate revenues**

**The exact same logic is required here. We record the expense related to buildings and equipment (called depreciation) when those assets are used up.**

**Think of depreciation as a cost allocation process (allocating the cost of an asset to the income statement), not a process of asset valuation**

The reason we depreciate an Asset is the Matching Concept—just like it was the Matching Concept in the previous modules when we talked about using up a Prepaid Expense.

Remember back to those modules:

We went out. We purchased an Asset. We made a prepayment. And that prepayment was classified as an Asset. It did not become an Expense until it was used up following the Matching Concept getting the expense in the year it has been used.

It is the same idea here.

We go out and we buy these buildings and we purchase this equipment. And, that is an Asset. But, over time we use these Assets to hopefully generate revenue. And, as this revenue is generated, we need to match the expense to the same year.

So, that is what Depreciation is all about.

It is taking the cost of an Asset and recording it as an Expense as it is used up in accordance with the Matching Concept.

This idea of the Matching Concept: it will follow us all quarter long. We are not going to be able to get away from it. It is something that is very, very important. And, you want to be comfortable with exactly what it is dealing with.

Think of Depreciation NOT as a valuation process but rather as a cost allocation process—taking the cost of an Asset and allocating it to an Expense as the Asset is used up.

Keep in mind, one last time: Depreciation is NOT related in any way to the declining value of an Asset.

We do not record our Assets at their value. Remember the Historical Cost Concept. We record them at cost. So, it does not make sense to then record their decline in value.

That is not what Depreciation is.

Let's go ahead to the next slide.

## Slide 5

***Chapter 4 Module 6: Recording Depreciation***

**To Record Depreciation Expense (done each year as an adjusting entry):**

**Debit**                    *Depreciation Expense*  
**Credit**                    *Accumulated Depreciation*

**JOURNAL ENTRY**

Date	Account Titles and Explanation	Debit	Credit
Oct. 31	Depreciation Expense Accumulated Depreciation - Office Equipment (To record monthly depreciation)	40	40

And, now that we know we are going to have to record Depreciation as part of an Adjusting Entry (AJE), let's take a look at what that Adjusting Entry (AJE) would look like.

The Adjusting Entry (AJE) to record Depreciation—it is done every year as we use up the buildings and equipment—is a debit to the account: Depreciation Expense and a credit to the account: Accumulated Depreciation.

And then, you can see down there (on Slide 5) I have given you an example of what the Journal Entry would look like.

You can see the debit to the Expense and a credit to this thing called: Accumulated Depreciation.

Now, let's go to the next slide.

Slide 6

*Chapter 4 Module 6: Depreciation Accounts*

**Depreciation expense:**

- **classified as an expense account**
- **found on the income statement**
- **reduces net income**
- **represents the amount of the building or equipment 'used up' in the current year**

**Accumulated depreciation:**

- **causes a decrease in assets**
- **classified as a contra asset account**
- **normal balance is a credit**
- **found on the balance sheet directly underneath the asset being depreciated**
- **represents the total amount of the building or equipment 'used up' since it was acquired by the company**

And, let's talk about these two accounts for just a couple of minutes.

What are these things?

And, let's start with the easier of the two: the Depreciation Expense.

Depreciation Expense is an Expense account. And, you will find it right there on the Income Statement with all of our other expenses: Salaries Expense, Utilities Expense, and Rent Expense.

So, it is just another example of an Expense account.

It represents the portion of the buildings and equipment that are used up.

Now, another key note about the Depreciation Expense:

Because it is an Expense, it, of course, reduces Net Income.

And, as I just said a second ago, it represents the amount of the buildings or equipment used up in the Current Year—in the year that is covered by the Income Statement.

So, Depreciation Expense:

I think that is the easier of the two to kind-of get your hands around.

It is an Expense account. It is found on the Income Statement. It reduces Net Income. And, it simply represents the amount of the buildings or the equipment used up in the Current Year.

The Accumulated Depreciation—the other part of that transaction—is a little bit different.

Let's do some bullet point characteristics for this account as well.

Accumulated Depreciation causes a reduction in Assets. It causes our Assets to be decreased on the Balance Sheet.

Now, you should be able to tell me because we have seen a previous example of something like this:

What type of account would you call that?

Any type of account that causes a reduction or decrease is a *contra* account.

Accumulated Depreciation causes a decrease in Assets so it would be classified as a *Contra-Asset* account.

This Contra-Asset account would have a Normal Balance on the credit side.

Contra-Asset means opposite of Asset. The Normal Balance for an Asset is on the debit side.

So, for a Contra-Asset—opposite of—to reduce Assets—it just follows the opposite set of rules. The Normal Balance is on the credit side of the T-Account.

Now, we will find this Accumulated Depreciation account on the Balance Sheet directly underneath the Asset being depreciated, either the buildings or equipment, as a decrease. That is what it means to be a Contra-Asset account.

It is found on the Balance Sheet as a decrease to Assets.

One other important point about the Accumulated Depreciation and how it differs from the Depreciation Expense:

The Expense is the amount used up in that Current Year.

On the Balance Sheet, the Accumulated Depreciation represents the total amount of the Asset used up from the time it was purchased until the point in time that we are preparing the Balance Sheet.

Remember: this is the difference. The Balance Sheet is a point in time statement.

So, as of this certain day, that is the total amount of that Asset that has been used up.

The Expense—what is on the Income Statement—covers a period of time; and, that represents how much has been used up in that one period of time.

One other thing to note and then we will move on:

For all of the different accounts that we learn, you ought to be able to do these bullet-point characteristics.

What kind of account is it?

What is the Normal Balance?

On which financial statement would you find that account?

How does it impact the financial statement items?

For example: Depreciation Expense reduces Net Income. For example:  
Accumulated Depreciation reduces Assets.

So, you ought to be able to do these key bullet point characteristics for each of the accounts we talked about.

Let's go ahead to the next slide.

### Slide 7

<i>Chapter 4 Module 6: Accumulated Depreciation</i>	
<p><b>Accumulated depreciation is a: CONTRA ASSET meaning it results in a reduction of assets</b></p>	
<p><b>XYZ Company Balance Sheet (partial)</b></p>	
<b>P-P-E:</b>	
<b>Equipment</b>	<b>\$100,000</b>
<b>Less: Accumulated depreciation</b>	<b><u>40,000</u></b>
<b>Total P-P-E</b>	<b>\$ <u>60,000</u></b>

And, we know that Accumulated Depreciation is...?

I am going to give you a little test.

What did we just say it was? What type of account did we say it was?

Answer it to yourself.

It is a Contra-Asset account, right?

And, what does it mean to be a Contra-Asset account.

It means that it will reduce our Assets.

So, our Accumulated Depreciation is a Contra-Asset account shown as a reduction of Assets on the Balance Sheet.

The way in which it would appear on the Balance Sheet would look something like this (on Slide 7).

There (on Slide 7) is a partial Balance Sheet.

And, you can see it is going to be in the P-P-E section because it reduces buildings and equipment which are both Long-Term Assets with a physical substance (i.e., P-P-E).

You can see here (on Slide 7) an example:

We have the equipment at its historical cost of \$100,000.

We then subtract (-) the Accumulated Depreciation—the amount of that equipment that has been used up as of this point in time. In this example, it is \$40,000.

And then, we could figure our Total P-P-E by just doing the subtraction. In that case, it is \$60,000.

That is how the account Accumulated Depreciation appears on the Balance Sheet.

Let's go ahead to the next slide.

## Slide 8

***Chapter 4 Module 6: Depreciation***

**The formula for computing annual depreciation expense is:**

$$\begin{aligned} & \text{(Cost – Residual Value) } \div \text{ Useful Life} \\ & = \text{ Depreciation Expense} \end{aligned}$$

- Residual value represents the company's estimate of what the asset can be sold for at the end of its expected life
- Useful life is expressed in years

And, let's talk about how to calculate it.

A little later in the course, we will learn a couple of different ways of doing this calculation. For now, let's just go with the basic calculation.

The Depreciation Expense per year is calculated by taking the Cost of the Asset minus (-) something we call Residual Value, and dividing it by (/) its Useful Life.

Now, we know what the cost is: that is the whole idea of Historical Cost.

The Residual Value simply represents the company's estimate of what they think the Asset can be sold for at the end of its life. It is just an estimate.

The Useful Life is an estimate of how long we think we will be able to use the Asset.

So, to calculate the Depreciation—the amount of the Asset used up—the amount transferred to the Income Statement as an Expense:

Take its cost; subtract (-) what we think we can sell it for at the end of its life; and then, divide by (/) the number of years we think we can use it.

It is: Cost minus (-) Residual Value over (/) Useful Life.

Now, that we know that, let's try our hand at doing a little example related to Depreciation.

Let's go to the next slide.

**Slide 9**

***Chapter 4 Module 6: Example #1***

**Case G:**  
**January 1, 1999**

<b>Equipment .....</b>	<b>38,000</b>	
<b>Cash .....</b>		<b>38,000</b>

**Depreciation Expense for 1999:**

**(38,000 - 2,000) ÷ 5 = \$7,200**

**This represents the amount of the equipment 'used up' in 1999**

And, let's go back to that problem from the Web site that you need to have in front of you.

And, I believe we are up to Case G on Depreciation.

Here is what it says: "On January 1<sup>st</sup>, 1999, XYZ Company purchased equipment for \$38,000. The equipment had a five (5)-year Life and was assigned a \$2,000 Residual Value."

Before we worry about anything to do with the Depreciation, let's just record the basic transaction of buying the asset.

This is something that you all should be able to do.

How would you record the purchase of equipment at January 1st?

There it is (on Slide 9). You would debit: Equipment and credit: Cash for its cost.

But, we know, once we own equipment and buildings, they are going to get used up and we are going to have to depreciate them.

So, let's calculate the Depreciation for 1999 on this piece of equipment.

Remember how to do it:

Cost minus (-) Residual Value; divided by (/) Life.

We are using up, in this case, \$7,200 per year.

We are going to transfer to the Income Statement 7200 bucks (\$7,200) every year for five (5) years.

Now that we know that amount, let's go to the next slide.

## Slide 10

**Chapter 4 Module 6: Example #1****Case G:****December 31, 1999 (AJE)**

**Depreciation Expense ..... 7,200**  
**Accumulated Depreciation ..... 7,200**

**Depreciation Expense = Expense**  
**Accumulated Depreciation = Contra Asset**

<b>Rev</b>	<b>-</b>	<b>Exp</b>	<b>=</b>	<b>NI</b>	<b>A</b>	<b>=</b>	<b>L</b>	<b>+</b>	<b>E</b>
<b>NE</b>		<b>↑7,200</b>		<b>↓7,200</b>	<b>↓7,200</b>		<b>NE</b>		<b>↓7,200</b>

And, let's go ahead and take a look at how to do that Adjusting Entry (AJE).

What do you think? What are we going to record?

We have already seen it, right? We know what the Adjusting Entry (AJE) should look like.

You debit: Depreciation Expense and credit: this Accumulated Depreciation for the \$7,200.

Now, that we have made the adjustment, it is every bit as important: let's determine how this impacts the financial statements.

To do that, let's identify the account types: we know that Depreciation Expense is an Expense account. And, we should know: Accumulated Depreciation is a Contra-Asset account.

How is this going to impact the financial statements?

Let's take a look.

We have an Expense that causes an increase to our Expenses. When Expenses go up that causes Net Income to go down. But, as soon as Net Income is decreased, we also know that Equity—specifically Retained Earnings—is decreased. The effect on Net Income is the effect on Retained Earnings.

Lastly, to balance our Balance Sheet, we have a Contra-Asset. A Contra-Asset causes a reduction in Assets, so our Assets have also decreased.

And, we balance.

Let's go ahead to the last slide.

**Slide 11**

<i>Chapter 4 Module 6: Depreciation</i>	
<b>Question</b>	- <b>Is depreciation an example of an accrual or a deferral?</b>
<b>Answer</b>	- <b>Deferral. The cash is paid first when the asset is purchased. The expense is recorded later as the asset gets 'used up'.</b>

And, I would like to end this module with a question.

Depreciation: would you classify Depreciation as an Accrual or a Deferral?

Think about it for just a second.

What do you think is appropriate?

We would go ahead and classify Depreciation as a Deferral.

The reason: we paid the cash on January 1<sup>st</sup> when we purchased the equipment. The action (i.e., the recording of the Expense) did not come until later as the Asset was used up.

The exchange of cash first; the Expense recorded later; that is a Deferral.