

**ACCT 101 – Bonds**  
**LECTURE NOTES – CH. 10**  
**Prof. Johnson**

**BASICS OF BONDS**

**How corporations are financed**

Corporations raise cash from outside parties by:

1. Equity Financing. This involves issuing common or preferred stock to investors who are called stockholders. The accounting for stock issuances is discussed in Chapter 11.
2. Debt Financing. This involves borrowing money from lenders. It may be accomplished by borrowing money from:
  - Banks or private parties, in the form of notes payable (see Ch. 10). This is practical when smaller amounts of monies are needed, or when the notes payable are be secured by properties.
  - Investors, in the form of bonds payable. This is required when large amounts of money are to be raised. Banks will usually shy away from giving extremely large loans due to the credit risk involved. In this case, corporations, or government agencies, issue bonds to several different investors. The bonds are issued through a brokerage. The brokerage sells the bonds to investors. Thus, the investor in the bond becomes a creditor of the corporation that issued the bonds.

One advantage of issuing stock is that the investment by the stockholder does not need to be repaid by the corporation. A disadvantage of issuing stock is that dividends paid to stockholders are not deductible for taxes.

An advantage of issuing bonds is that the percentage ownership of current stockholders will not be reduced, or diluted. A large disadvantage to issuing bonds is that interest must be paid, and the bond's principal must eventually be repaid as well.

**Important terms**

<b>Types of Bonds:</b>
------------------------

**Term bonds:** A bond with interest-only payments for several years, with the principal due at the maturity date. These are the types of bonds we will account for.

**Serial bonds:** A bond with both principal and interest repaid periodically.

**Convertible bonds:** Bonds that may be exchange for stock of the corporation, at the option of the bondholder (investor).

**Callable bonds:** Bonds that may be repaid (redeemed) early at the option of the corporation.

**Debenture bonds:** Bonds issued on the general credit of the corporation. They are not collateralized by any assets of the corporation.

**Bond indenture:** A contract between the issuing corporation and the investor. This contract specifies many items, including, but not limited to, the interest rate, interest payment dates, and the maturity date.

<b>Other Terminology:</b>
---------------------------

**Contract rate of interest:** The rate of interest to be paid by the corporation, as specified in the bond indenture agreement.

**Market rate of interest:** The rate of interest demanded by investors. This rate changes daily, and may differ from the contract interest rate. As we will see, differences between the contract rate of interest and the market interest rate will affect the amount of cash the corporation will receive when it issues bonds.

**Face value:** The principal amount of the bond.

**Carrying value:** The balance of Bonds Payable *plus* the balance of Premium on Bonds Payable or *minus* the balance of Discount on Bonds Payable.

**New accounts—issuance of bonds**

Bonds Payable (liability), Discount on Bonds Payable (contra-liability), and Premium on Bonds Payable (liability), are all accounts peculiar to bonds. The exercises starting on page 3 of these notes in “Journal entries for bonds” will demonstrate how they are used.

**BOND ISSUANCES**

How much will the corporation receive when it issues a \$100,000 bond payable?  
The answer is—it depends.

The following chart summarizes the effects of market and contract rates of interest upon the proceeds of a \$100,000 bond issuance. We will look at this from the point of view of the issuing corporation. Any costs of bond issuance are ignored.

<i>Relationship between contract and market rate</i>	<i>Issuance price of the bond</i>
Contract rate = Market rate	The corporation will receive exactly \$100,000.
Contract rate > Market rate	The corporation will receive more than \$100,000. The additional amount received above par is called a <i>premium</i> .
Contract rate < Market rate	The corporation will receive less than \$100,000. The deficiency below par is called a <i>discount</i> .

## Bond Trading

Many bonds are traded over exchanges, as are many stocks. Bonds are traded in denominations of \$1,000 or more. For convenience, the market values of bonds are expressed as a percent of their par value.

*Example:* A \$1,000 bond trades at 101. The market value is \$1,010 ( $\$1,000 * 101\%$ ).

*Example:* A \$1,000 bond trades at 99. The market value is \$990 ( $\$1,000 * 99\%$ ).

In reality the market value of bonds are computed using present value techniques, as described on page 416. We will not cover present value techniques in pricing bonds. Instead, we will use percentages of par value, as described above.

## Amortization of bond discounts and bond premiums

The Discount on Bonds Payable and Premium on Bonds Payable accounts are written off (amortized) over the life of the bond. We will learn the straight-line method of amortizing bond discounts and premiums.

## Journal entries for bonds

The following examples cover issuance of bonds, payment of interest, and amortization of bond discount or bond premium over several scenarios. The solutions are located on page 10-14 of these notes.

*Example #1: Bond issued at par*

A \$100,000 bond is issued on January 1, 2009, at face value. Interest is 8%, paid semiannually, on June 30 and December 31. The bond matures in 10 years. Prepare the following journal entries.

Record the issuance of the bonds:

Date	Description	Debit	Credit

Record the payment of interest on June 30:

Date	Description	Debit	Credit

Record the payment of interest on December 31:

Date	Description	Debit	Credit

*Example #2: Bond issued at par, with adjusting entry for interest payable.*

A \$100,000 bond is issued on March 1, 2009, at face value. Interest is 8%, paid semiannually, on August 31 and February 28. The bond matures in 10 years. Prepare the following entries.

Record the issuance of the bonds:

Date	Description	Debit	Credit

Record the payment of interest on August 31:

Date	Description	Debit	Credit

Record an adjusting entry for interest owed at December 31, 2009:

Date	Description	Debit	Credit

Record the payment of interest on February 28, 2010:

Date	Description	Debit	Credit


*Example #3: Bond issued at a discount*

A \$100,000 bond is issued on January 1, 2009, at 99. The contract rate of interest is 8%, paid semiannually, on June 30 and December 31. The bond matures in 10 years. Prepare the following entries.

Record the issuance of the bonds:

Date	Description	Debit	Credit

Record the payment of interest and amortization of discount on June 30:

Date	Description	Debit	Credit

Record the payment of interest and amortization of discount on December 31:

Date	Description	Debit	Credit

*Example #4: Bond issued at a premium*

A \$100,000 bond is issued on January 1, 2009, at 101.5. The contract rate of interest is 8%, paid semiannually, on June 30 and December 31. The bond matures in 10 years. Prepare the following entries.

Record the issuance of the bonds:

Date	Description	Debit	Credit

Record the payment of interest and amortization of premium on June 30:

Date	Description	Debit	Credit

Record the payment of interest and amortization of premium on December 31:

Date	Description	Debit	Credit

*Example #5: Bond issued at a premium with adjusting entry for interest payable (Appendix C)*

A \$100,000 bond is issued on September 1, 2009, at 101.5. The contract rate of interest is 8%, paid semiannually, on February 28 and August 31. The bond matures in 10 years. Prepare the following entries.

Record the issuance of the bonds:

Date	Description	Debit	Credit

Record the accrued interest payable and premium amortization at December 31, 2009:

Date	Description	Debit	Credit

Record the payment of interest on February 28, 2010:

Date	Description	Debit	Credit

**How Amortization of a Bond Discount Affects the Bond Carrying Value**

The carrying value increases as the discount is amortized. As an example, assume a \$100,000, 8% bond was issued for \$98,000 on December 31, 2009. The bond matures in two years. Interest is payable on June 30 and December 31. The discount was \$2,000 (\$100,000 par value less \$98,000 cash received). The carrying value at December 31, 2009 is \$98,000 (\$100,000 par value less the \$2,000 discount).

The total bond interest for accounting purposes over the two year life of the bond is:

Four payments of \$4,000 for interest ( $\$100,000 * 8\% * \frac{1}{2}$ year)	\$16,000
Plus discount	<u>2,000</u>
Total bond interest expense over the life of the bond	<u>\$18,000</u>

The Discount on Bonds Payable will be amortized each time an interest payment is made. The amount of the amortization will be \$500 (\$2,000 discount divided by four interest payments).

The table below shows the affects of discount amortization over the life of the bond.

<i>Payment Number</i>	<i>Semiannual period-end</i>	<i>Unamortized discount</i>	<i>Carrying Value</i>
0 (Beg. Bal.)	12/31/2009	\$2,000	\$98,000
1	6/30/2010	1,500	98,500
2	12/31/2010	1,000	99,000
3	6/30/2011	500	99,500
4	12/31/2011	0	100,000

When the bond principal is repaid, the balances of the Discount on Bonds Payable and the Bonds Payable accounts will both be \$0.

## **BOND RETIREMENT**

Bonds may be retired at maturity, before maturity, or by conversion to stock. Examples of each follow.

*Example: Bond retired at maturity*

A \$100,000 bond matures on December 31, 2011. Assuming the final interest payment has been made, is recorded below.

2011

Dec. 31	Bonds Payable	100,000	
	Cash		100,000

*Example: Bond retired before maturity*

A company has \$100,000 bonds payable. The balance in Premium on Bonds Payable is \$2,000. On July 1, 2010, the company retires (pays off) the bonds, at a price of 101.5. Assuming the final interest payment is made, the journal entry to retire the bonds is presented below.

2010

July 1	Bonds Payable	100,000
--------	---------------	---------



Premium on Bonds Payable	2,000	
Cash (101.5% * \$100,000)		101,500
Gain on Bond Retirement		500

The gain or loss amount can be verified with the following calculation.

Carrying value of bond (\$100,000 + \$2,000 premium)	\$102,000
Less: cash paid to retire bond	<u>101,500</u>
Gain on bond retirement	<u>\$ 500</u>

If the result of this calculation is negative, a loss on bond retirement would be realized. A loss on bond retirement is recorded by debiting the Loss on Bond Retirement account.

*Example: Bond retired by conversion*

A company has \$100,000 convertible bonds payable, with no premium or discount. On January 1, 2010, after the final interest payment was recorded, holders of the bonds converted the bonds to 30,000 shares of \$3 par common stock. The entry to record the conversion is

2010			
January 1	Bonds Payable	100,000	
	Common Stock (30,000* \$3 par)		90,000
	Paid-in Capital in Excess of Par Value		10,000

The accounts “Common Stock” and “Paid-in Capital in Excess of Par Value” are part of stockholders’ equity. They are covered in Chapter 11.

## LONG-TERM NOTES PAYABLE

### Installment Notes

An installment note is debt requiring a series of payments to the lender. Payments on installment notes are usually fixed. Each payment includes a payment for interest and a payment for the principal.

As an example, a company borrows \$60,000 from a lender on January 1, 2010, and signs an 8% note payable requiring six annual payments of \$12,979 each. The payments are due on December 31. The borrowing and the first two payments are recorded as follows.

*Borrowing:*

2010			
Jan. 1	Cash	60,000	
	Notes Payable		60,000

*First payment:*

2010			
Dec. 31	Interest expense (\$60,000* 8%)	4,800	
	Notes Payable (\$12,979 - \$4,800 interest)	8,179	
	Cash		12,179

*Second payment:*

2011			
Dec. 31	Interest expense (\$60,000-\$8,179)* 8%	4,146	
	Notes payable (\$12,979 - \$4,146 interest)	8,833	

A special type of note, called a mortgage, calls for the borrower to pledge assets as security for the note. If the borrower cannot repay the mortgage loan, the lender will take title to these pledged assets.

### SOLUTIONS TO EXAMPLES

*Example #1: Bond issued at par*

A \$100,000 bond is issued on January 1, 2009, at face value. Interest is 8%, paid semiannually, on June 30 and December 31. The bond matures in 10 years. Prepare the following journal entries.

Record the issuance of the bonds:

Date	Description	Debit	Credit
Jan. 1	Cash	100,000	
	Bonds Payable		100,000

Record the payment of interest on June 30:

Date	Description	Debit	Credit
June 30	Bond Interest Expense	4,000	
	Cash		4,000
	(\$100000*8%*1/2)		

Record the payment of interest on December 31:

Date	Description	Debit	Credit
Dec. 31	Bond Interest Expense	4,000	
	Cash		4,000
	(\$100000*8%*1/2)		

*Example #2: Bond issued at par, with adjusting entry for interest payable.*

A \$100,000 bond is issued on March 1, 2009, at face value. Interest is 8%, paid semiannually, on August 31 and February 28. The bond matures in 10 years. Prepare the following entries.

Record the issuance of the bonds:

Date	Description	Debit	Credit
March 1	Cash	100,000	
	Bonds Payable		100,000

Record the payment of interest on August 31:

Date	Description	Debit	Credit
Aug. 1	Bond Interest Expense	4,000	
	Cash		4,000

Record an adjusting entry for interest owed at December 31, 2009:

Date	Description	Debit	Credit
Dec. 31	Bond Interest Expense	2,667	
	Interest Payable		2,667
	(\$100,000 * 8% * 4/12)		

Record the payment of interest on February 28, 2010:

Date	Description	Debit	Credit
Feb. 28	Interest Payable	2,667	
	Bond Interest Expense (\$100,000 * 8% * 2/12)	1,333	
	Cash		4,000

*Example #3: Bond issued at a discount*

A \$100,000 bond is issued on January 1, 2009, at 99. The contract rate of interest is 8%, paid semiannually, on June 30 and December 31. The bond matures in 10 years. Prepare the following entries.

Record the issuance of the bonds:

Date	Description	Debit	Credit
Jan. 1	Cash (99% * \$100,000)	99,000	
	Discount on Bonds Payable	1,000	
	Bonds Payable		100,000

Record the payment of interest and amortization of discount on June 30:

Date	Description	Debit	Credit
June 30	Bond Interest Expense (\$4,000 + \$50)	4,050	
	Cash		4,000
	Discount on Bonds Payable (\$1,000 / 20 payment periods)		50

Record the payment of interest and amortization of discount on December 31:

Date	Description	Debit	Credit
Dec. 31	Bond Interest Expense (\$4,000 + \$50)	4,050	
	Cash		4,000
	Discount on Bonds Payable (\$1,000 / 20 payment periods)		50

*Example #4: Bond issued at a premium*

A \$100,000 bond is issued on January 1, 2009, at 101.5. The contract rate of interest is 8%, paid semiannually, on June 30 and December 31. The bond matures in 10 years. Prepare the following entries.

Record the issuance of the bonds:

Date	Description	Debit	Credit
Jan. 1	Cash (101.5% * \$100,000)	101,500	
	Bonds Payable		100,000
	Premium on Bonds Payable		1,500

Record the payment of interest and amortization of premium on June 30:

Date	Description	Debit	Credit
June 30	Bond Interest Expense (\$4,000 - \$75)	3,925	
	Premium on Bonds Payable (\$1,500 / 20 payment periods)	75	
	Cash		4,000

Record the payment of interest and amortization of premium on December 31:

Date	Description	Debit	Credit
Dec. 31	Bond Interest Expense (\$4,000 - \$75)	3,925	
	Premium on Bonds Payable (\$1,500 / 20 payment periods)	75	
	Cash		4,000

*E*

*Example #5: Bond issued at a premium with adjusting entry for interest payable (Appendix C)*

A \$100,000 bond is issued on September 1, 2009, at 101.5. The contract rate of interest is 8%, paid semiannually, on February 28 and August 31. The bond matures in 10 years. Prepare the following entries.

Record the issuance of the bonds:

Date	Description	Debit	Credit
Sept.1	Cash (101.5% * \$100,000)	101,500	
	Bonds Payable		100,000
	Premium on Bonds Payable		1,500

Record the accrued interest payable and premium amortization at December 31, 2009:

Date	Description	Debit	Credit
Dec. 31	Bond Interest Expense (\$2,667 - \$50)	2,617	
	Premium on Bonds Payable (\$1,500 / 20 periods)*4/6	50	
	Interest Payable (\$100,000*8%*4/12)		2,667

Record the payment of interest on February 28, 2010:

Date	Description	Debit	Credit
Feb. 28	Interest Payable	2,667	
	Premium on Bonds Payable (\$1,500 / 20 periods)*2/6	25	
	Bond Interest Expense (\$100,000*8%*2/12)-\$25	1,308	
	Cash		4,000