# MODULE 7 ACCOUNTING FOR LONG-TERM LIABILITIES AND EQUITY | CHS 13, 14 & 15

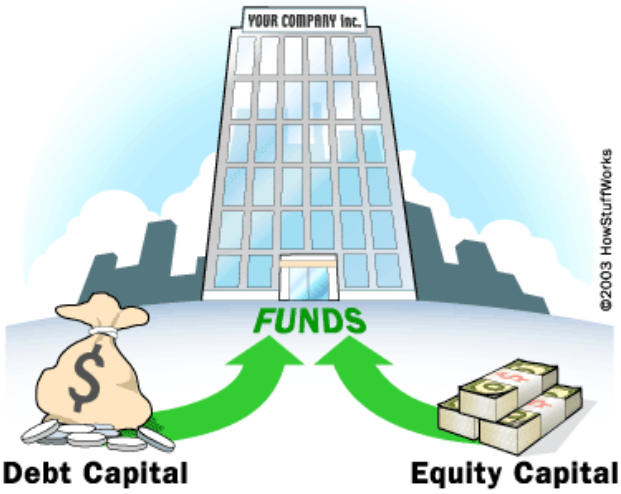
| Learning Objectives: | | Topic* | Ch & Time |
|---|---|---|---|
| **7.1** | Compare and contrast debt & equity financing; review debt-to-equity ratio. | F | Ch 13 pp.371-377; 382-391 5 hours |
| **7.2** | Identify and describe the different classes of stock and explain the rights afforded each class of stock. | F | |
| **7.3** | Describe the difference between cash dividends, stock dividends and stock splits, and the impact on the financial statements. | F | |
| **7.4** | Record stock transactions: contributions by owners, corporate distributions (dividends), and the reacquisition of company stock. | F | |
| **7.5** | Compare and contrast a periodic payment note payable, a lump-sum note payable, and a periodic and lump-sum note payable. | F | Ch 14 5 hours |
| **7.6** | Calculate the carrying value, interest expense and cash payment for note payable (periodic payment, lump-sum, periodic and lump-sum) transactions. | F | |
| **7.7** | Record transactions for notes payable: issuance and interest expense. | F | Ch 15 5 hours |
| **7.8** | Record transactions for bonds issued at face value, a premium and a discount. | F | |
| **7.9** | Identify the long term debt amortization impact on financial statements. | F | |
| | | **Module 7 Total Hours = 15** | |

* F: Financial Accounting; M: Managerial Accounting; A: Financial Statement Analysis

**NOTES:**

## LEARNING OBJECTIVE 7.1:

**Compare and contrast debt vs. equity financing; review debt-to-equity ratio.**




**Sources and Uses of Funds:**

| Sources | Uses |
|---|---|
| **Debt Financing**<br>Current Liabilites (notes due in a year)<br><br>Long Term Liabilities (bonds and long term notes) | **To Acquire:**<br><br>Current and Long Term Assets (equipment, buildings, etc.) |
| **Equity Financing**<br>Contributions from Owners (Stock or owners' investment)<br><br>Earnings of the Company (net income) | |

**Debt financing:**
**1) Current liabilities (notes due within a year)**
**2) Long term liabilities (long term notes, bonds)**

**Risk of debt financing:** Chance the company might fail because it can't make the interest and principal payments.

**Measurements of risk:**
**1) Debt-to-Equity Ratio** = Total Liabilities/Total Owners' Equity

In general, a ratio of **1 or less** is considered a safe level of financial risk. The higher this number, the greater the financial risk.

**2) Times Interest Earned Ratio** = Net Income before Interest and Taxes/Interest

This ratio should be **well above 1** in order to meet interest obligations. *This ratio shows the company's ability to service its debt.*

**Reward of debt financing:** When companies generate a return on their borrowed funds that is greater than the cost of using the funds (interest), the owners of the companies benefit (financial leverage).

**Financial Leverage and Return on Owner's Equity:**
Financial leverage can increase the rate of return on owner's equity when the rate of return on invested assets is greater than the interest rate paid to creditors. Debt can also create a higher return on equity. ***The higher the debt to equity ratio, the greater a firm's return on owner's equity.***

| Example: | A | = | L | + | OE |
|---|---|---|---|---|---|
| Company 1 | 1,000,000 | | 0 | | 1,000,000 |
| Company 2 | 1,000,000 | | 700,000 | | 300,000 |

**Company 1** Net Income after Taxes = $120,000

| | |
|---|---|
| Income before Taxes | $200,000 |
| Tax Expense ($200,000 x .4) | 80,000 |
| Net Income | $120,000 |

Company 1 Return on Equity = ?

| | |
|---|---|
| **Company 2** Net Income after Interest and Taxes = | $86,400 |
| Income before Interest and Taxes | $200,000 |
| Less: Interest Expense ($700,000 x .08) | 56,000 |
| Income before Taxes | $144,000 |
| Tax Expense ($144,000 x .4) | 57,600 |
| Net Income | $86,400 |

Company 2 Return on Equity = ?

**Which company has the higher return?**

**Equity financing:**
1) Owners' contributions
2) Net income reinvested in business instead of shared with owners

**Risk of equity financing:** Owners face the risk of not receiving a satisfactory return

**Reward:** Owners can gain financial reward with a satisfactory return on their investment.

Read and discuss article link: http://www.investopedia.com/financial-edge/1112/small-business-financing-debt-or-equity.aspx


Filing Empty Pockets: Borrowing, Loans and Credit http://www.startheregoplaces.com/teacher/classroom-resources/filling-empty-pockets-borrowing-loans-and-credit/

## LEARNING OBJECTIVE 7.2:

**Identify and describe the different classes of stock and explain the rights afforded each class of stock.**

**Types of Stock:**

***Common Stock***
1. Right to vote on significant events, elect board of directors
2. Right to dividends when board declares
3. Preemptive right – right to maintain percentage of ownership when new shares are authorized
4. Rights to assets upon liquidation of the corporation

***Preferred Stock***
1. Have special privileges and first dibs on dividends
2. No voting rights

Types:

**Cumulative** – accumulates unpaid dividends over time.

**Participating** –allows preferred shareholders the right to receive an amount in excess of the stated dividend rate (excess given after common stockholders have been paid)

**Callable** – gives the corporation the right to repurchase its preferred stock (usually at a premium)

**Redeemable** – gives the shareholder the option to redeem the stock for cash for a predetermined price per share.

**Convertible** – shareholder can convert to common stock (ex. Each preferred share can convert to 4 common shares)

Watch https://www.youtube.com/watch?v=oVVt6P2q-6c and https://www.youtube.com/watch?v=ei-peEH2U9I about common and preferred stocks


The Ascent of Money http://www.startheregoplaces.com/teacher/classroom-resources/pbs-ascent-money-curriculum-taking-stock/#

Sample financials → sec.gov → 10K & Proxy

## LEARNING OBJECTIVE 7.3:

**Describe the difference between cash dividends, stock dividends, and stock splits, and the impact on the financial statements.**

**How do dividends work?**

Corporations share profits with stockholders through dividends. Dividends can be in the form of cash, additional shares of stock, or other assets.

Cash dividends decrease retained earnings and cash.

Stock dividends decrease retained earnings and increase the stock and paid in capital in excess (contributed capital) balances (see below).

**Stockholder's Equity**
**Before and After Dividends**

| | Before | After |
|---|---|---|
| Common Stock | $150,000 | $165,000 |
| Paid-in Capital in Excess of Par Value, Common | 30,000 | 75,000 |
| Total Contributed Capital | $180,000 | $240,000 |
| Retained Earnings | 900,000 | 840,000 |
| Total Stockholder's Equity | $1,080,000 | $1,080,000 |
| | | |
| Share Outstanding | 30,000 | 33,000 |
| SHE per Share | $36.00 | $32.73 |

## LEARNING OBJECTIVE 7.4:

**Record stock transactions: contributions by owners, corporate distributions (dividends), and the reacquisition of company stock.**

$ Recommended Textbook Problem: P15.1

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**Stockholder's Equity**

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Recommended Textbook Problem: P15.2

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**Stockholder's Equity**

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## LEARNING OBJECTIVE 7.5:

**Compare and contrast a periodic payment note payable, a lump-sum note payable, and a periodic and lump-sum note payable.**

**Face value** – Stated value of the note

**Face interest rate (%)** – Interest rate printed on the note that is used to determine cash payments per period

**Term** – Life of the note (years)

**Interest periods** – Number of times interest (cash) is paid each year (annually, semi-annually)

**Market or Effective rate (%)** – Interest rate on other notes (Market rate is used to determine the present value of the note)

Definition Videos: http://www.investopedia.com/video/

**NOTES**

**Interest Rate Comparison**
Face Interest Rate > Market Interest Rate
Market Interest Rate > Face Interest Rate
Face Interest Rate = Market Interest Rate

**Proceeds (cash received)**
Proceeds > Face value: PREMIUM
Proceeds < Face value: DISCOUNT
Proceeds = Face value

Examples:

**Value of a Note**
***Equal to:***
1. Present value of the FACE VALUE of the note, ***plus***
2. Present value of the INTEREST PAYMENTS

***To calculate:***
FV = Face value of the note
Pmt = Face value of the Note x Face rate x Time
c = number of payments per year
n = total number of payments
r = market rate
PV = Present value of the note

**Helpful Hints**
FACE interest rate is used to determine the INTEREST PAYMENTS (Cash paid)

MARKET interest rate is used to determine the PRESENT VALUE of the NOTE and INTEREST EXPENSE

INTEREST (CASH) PAYMENTS:
Face Value of the Note x Face Interest Rate / Interest Periods per Year

INTEREST EXPENSE:
Carrying Value of the Note x Market Interest Rate / Interest Periods Per Year

**CARRYING VALUE OF A NOTE**
Face value PLUS PREMIUM
Face value LESS DISCOUNT
Face value

**COST OF BORROWING**
***Equal to:*** Total cash paid, less the cash proceeds

## MODULE 7 | CHS 13, 14 & 15

### LEARNING OBJECTIVE 7.6:

**Calculate the carrying value, interest expense and cash payment for note payable (periodic payment, lump-sum, periodic and lump-sum) transactions.**

Amortization website example: amortization-calc.com
Role-play using sample docs / debt instruments

### LEARNING OBJECTIVE 7.7:

**Record transactions for notes payable: issuance and interest expense.**

### LEARNING OBJECTIVE 7.8:

**Record transactions for bonds issued at face value, a premium and a discount.**

### LEARNING OBJECTIVE 7.9:

**Identify the long term debt amortization impact on financial statements.**

Use this document in role play as you introduce bonds, using the textbook examples pp.437-442, to help students understand the promises on the face of the bond. They can then compare the promise vs. the actual market reality.

**PD Retail**
**$1,000**
**10% semi-annual**
**10 year**

*issue 2,000 of these bonds

## MODULE 7 | CHS 13, 14 & 15

**KEY POINTS FOR PERIODIC PAYMENT (INSTALLMENT) NOTES:**

1. The initial carrying value of the note = proceeds = present value = face value
2. The face rate of interest = market rate of interest
3. The future value of the note is zero because we are paying back the face value of the note over its life.
4. Interest expense for a period is: carrying value x market rate x 1/c.
5. Payments are for interest and principal (face value) each period.
6. Carrying value of the note decreases over time as the principal (face value) is paid off.

**Note #1 $60,000 3-year installment note with annual payments and 10% market rate of interest. Note made May 1, 2016.**

FV = PMT = r = c = n = PV =

| Date | Payment | Interest Expense | Principal | Carrying Value |
|---|---|---|---|---|
| 5/1/16 | | | | $60,000.00 |
| 5/1/17 | | | | |
| 5/1/18 | | | | |
| 5/1/19 | | | | |

Spreadsheet Debt Amort Template: http://bit.ly/Mod7DebtAmortMap

## MODULE 7 | CHS 13, 14 & 15

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| Balance Sheet | Income Statement | Statement of Cash Flows |
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**KEY POINTS FOR LUMP-SUM (NONINTEREST-BEARING) NOTES:**

1. Interest carrying value of the note = proceeds = present value.
2. There is NO face rate of interest, only a market rate.
3. There are NO periodic payments.
4. The future value = face value of the note.
5. Interest expense for a period is: carrying value x market rate x 1/c.
6. Carrying value of the note increases over time as interest expense (not paid) is added to the CV.

**Note #2 Want to borrow $60,000 by issuing a 3-year noninterest-bearing note. The market interest rate is 10% and the note will be date May 1, 2016.**

FV = PMT = r = c = n = PV =

| Date | Payment | Interest Expense | Discount on Notes Payable | Face Value | Carrying Value |
|---|---|---|---|---|---|
| 5/1/16 | | | | | |
| 5/1/17 | | | | | |
| 5/1/18 | | | | | |
| 5/1/19 | | | | | |

**NOTES:**

## MODULE 7 | CHS 13, 14 & 15

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| Balance Sheet | Income Statement | Statement of Cash Flows |
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**KEY POINTS FOR PERIODIC AND LUMP-SUM (BONDS) NOTES WHEN MARKET RATE = FACE RATE**

1. Initial carrying value of the note = proceeds = present value.
2. The payment (ANN) = face value x face rate x 1/c.
3. Face value of the note = future value.
4. Interest expense for a period is: carrying value x market value x 1/c.
5. The interest expense on the income statement and the interest payment on the statement of cash flows are the same.
6. The carrying value of the note will not change.

**Note #3 3-year note with a $60,000 face value and an 8% face rate that is paid annually.**

**The market rate of interest on the day the note is issued (May 1, 2016) is 8%.**

FV = PMT = r = c = n = PV =

| Date | Cash Interest Payment | Interest Expense | | | Carrying Value |
|---|---|---|---|---|---|
| 5/1/16 | | | | | |
| 5/1/17 | | | | | |
| 5/1/18 | | | | | |
| 5/1/19 | | | | | |

## MODULE 7 | CHS 17, 18 & 19

**NOTES:**

## MODULE 7 | CHS 17, 18 & 19

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| Balance Sheet | Income Statement | Statement of Cash Flows |
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**KEY POINTS FOR PERIODIC AND LUMP-SUM PAYMENT (BONDS) NOTES WHEN MARKET RATE > FACE RATE**

1. Initial carrying value of the note = proceeds = present value.
2. The payment (ANN) = face value x face rate x 1/c.
3. Face value of the note = future value.
4. Interest expense for a period is: carrying value x market rate x 1/c.
5. The difference between the interest expense on the income statement and the interest payment on the statement of cash flows is the adjustment to the carrying value of the note on the balance sheet.
6. Carrying value of the note increases over time as the adjustment is added to the carrying value.

**Note #4 3-year note with a $60,000 face value and an 8% face rate that is paid annually.**

**The market rate of interest on the day the note is issued (May 1, 2016) is 10%.**

FV = PMT = r = c = n = PV =

| Date | Cash Interest Payment | Interest Expense | Discount Reduction | Discount Remaining | Face Value | Carrying Value |
|---|---|---|---|---|---|---|
| 5/1/16 | | | | | | |
| 5/1/17 | | | | | | |
| 5/1/18 | | | | | | |
| 5/1/19 | | | | | | |

**NOTES:**

## MODULE 7 | CHS 17, 18 & 19

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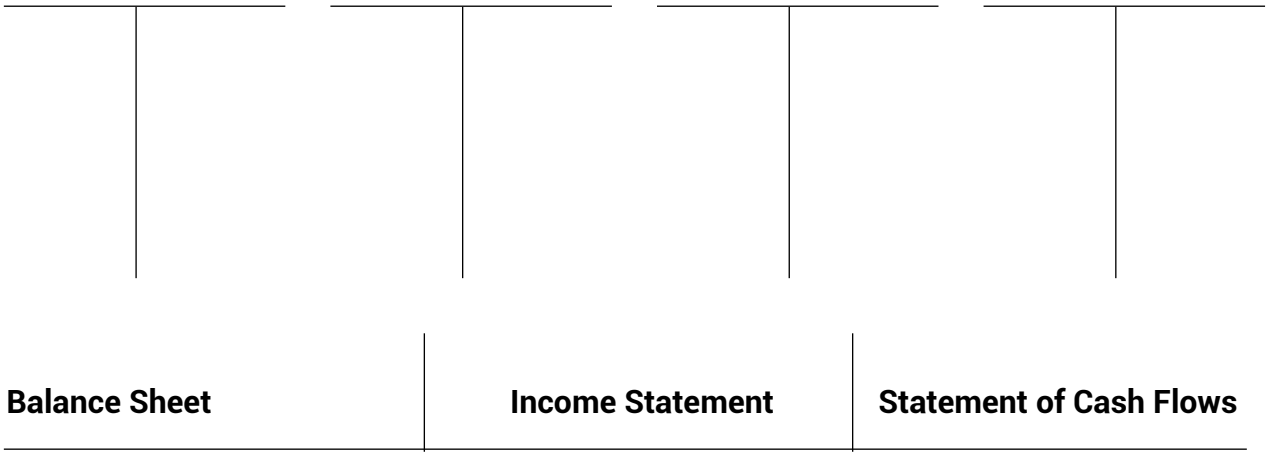

| Balance Sheet | Income Statement | Statement of Cash Flows |
|---|---|---|

**KEY POINTS FOR PERIODIC AND LUMP-SUM PAYMENT (BONDS) NOTES WHEN MARKET RATE < FACE RATE**

1. Initial carrying value of the note = proceeds = present value.
2. The payment (ANN) = face value x face rate x 1/c.
3. Face value of the note = future value.
4. Interest expense for a period is: carrying value x market rate x 1/c.
5. The difference between the interest expense on the income statement and the interest payment on the statement of cash flows is the adjustment to the carrying value of the note on the balance sheet.
6. Carrying value of the note decreases over time as the adjustment is deducted from the CV.

**Note #5 3-year note with a $60,000 face value and an 8% face rate that is paid annually.**

**The market rate of interest on the day the note is issued (May 1, 2016) is 6%.**

FV = PMT = r = c = n = PV =

| Date | Cash Interest Payment | Interest Expense | Premium Reduction | Premium Remaining | Face Value | Carrying Value |
|---|---|---|---|---|---|---|
| 5/1/16 | | | | | | |
| 5/1/17 | | | | | | |
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## MODULE 7 | CHS 17, 18 & 19

**NOTES:**

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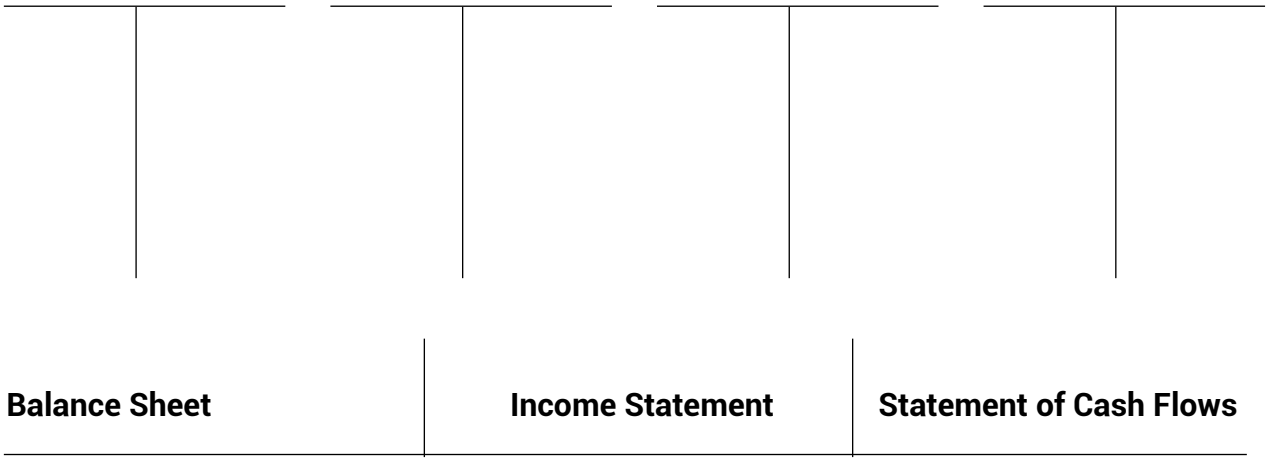

| Balance Sheet | Income Statement | Statement of Cash Flows |
|---|---|---|

## MODULE 7 | CHS 17, 18 & 19