cHAPTER 10

Liabilities

# Student Learning Objectives and Related Assignment Materials

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| **Student Learning Objectives** | **Mini-Exercises** | **Exercises** | **Coached Problems** | **Problems (Groups  A & B)** | **Compre-hensive Problem** | **Skills Develop-ment Cases** | **Continuing Cases** |
| LO 10-1 Explain the role of liabilities in financing a business. |  |  |  |  |  | 3 |  |
| LO 10-2 Explain how to account for common types of current liabilities. | 1, 2, 3, 4, 5\*, 6, 7 | 1, 2\*, 3\*, 4, 5, 6 | 1, 2, 3 | A1, A2, A3\*, B1, B2, B3 | 1^+ | 3 | 1†, 2^£ |
| LO 10-3 Analyze and record bond liability transactions. | 8, 9, 10, 11 | 7, 8\*, 9 |  | A4, B4, B5 |  | 3, 4, 5 |  |
| LO 10-4 Describe how to account for contingent liabilities. | 12 |  | 4 | A5 |  | 3 |  |
| LO 10-5 Calculate and interpret the debt-to-assets ratio and times interest earned ratio. | 13, 14 | 5, 10\* | 1, 2, 5 | A1, A2, B1, B2 | 1^+ | 1, 2, 3, 6 |  |
| LO 10-S-1 Use straight-line bond amortization. | 15 | 11, 14 | 6, 9 | A6, B6 |  | 7 |  |
| LO 10-S-2 Use effective-interest bond amortization. | 16 | 12, 15 | 7, 10 | A7, B7 |  | 8 |  |
| LO 10-S-3 Use simplified effective-interest bond amortization. | 17 | 13, 16 | 8, 10 | A8, B8 |  | 9 |  |

*(Table footnotes on next page.)*

# Student Learning Objectives and Related Assignment Materials, continued

\* Animated solution included in the PowerPoint Slides.

^ Particularly challenging; requires students to combine multiple concepts in order to advance to the next level of accounting knowledge.

+ Comprehensive Problem 10-1 also covers LO 9-3 and LO 9-7

† Continuing Case 10-1 builds on the story of Nicole’s Getaway Spa, introduced in earlier chapters. This case focuses on analyzing transactions and preparing journal entries for notes payable and contrasting the accounting for notes payable and notes receivable. This case will be extended in future chapters.

£ Continuing Case 10-2 builds on the story of Wiki Art Gallery (WAG), an instructional case in Connect. This case focuses on the calculation of interest expense and the impact of a decision regarding salary. The case will be extended in future chapters.

# Overview

The significant role that current and long-term liabilities play in financing businesses is highlighted.

Students learn accounting principles applied to current liabilities (including Accounts Payable, Accrued Liabilities, Accrued Payroll, Notes Payable, Sales Tax Payable, Unearned Revenue, and Current Portion of Long-Term Debt) and bond liabilities.

# Synopsis of Chapter Revisions

* Updated focus company illustrations
* New Spotlight on Business Decisions to discuss accounting for crowdfunding liabilities arising from Indiegogo, Kickstarter, and Prosper arrangements
* New illustration to distinguish different bond types and features
* Replaced quick ratio with debt-to-assets ratio
* New Chapter Supplement 10D included in *Connect* on installment notes
* Reviewed, updated, and introduced new end-of-chapter material

# PowerPoint Slides

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| **Student Learning Objective** | **PowerPoint® Slides** |
| LO 10-1 Explain the role of liabilities in financing a business. | 10-2 through 10-4 |
| LO 10-2 Explain how to account for common types of current liabilities. | 10-5 through 10-22 |
| LO 10-3 Analyze and record bond liability transactions. | 10-23 through 10-34 |
| LO 10-4 Describe how to account for contingent liabilities. | 10-35 through 10-36 |
| LO 10-5 Calculate and interpret the debt-to-assets ratio and times interest earned ratio. | 10-37 through 10-40 |
| LO 10-S-1 Use straight-line bond amortization. | 10-41 through 10-46 |
| LO 10-S-2 Use effective-interest bond amortization. | 10-47 through 10-53 |
| LO 10-S-3 Use simplified effective-interest bond amortization. | 10-54 through 10-58 |

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| **Animated Builds and Animated Solutions** | **PowerPoint® Slides** |
| Mini-Exercise 10-5 | 10-60 |
| Exercise 10-2 | 10-61 through 10-62 |
| Exercise 10-3 | 10-63 through 10-64 |
| Exercise 10-8 | 10-65 through 10-66 |
| Exercise 10-10 | 10-67 through 10-68 |
| Problem A10-3 | 10-69 through 10-71 |

# Chapter Summary

**LO 10-1 Explain the role of liabilities in financing a business.**

* Liabilities play a vital role in allowing a business to buy goods and services on credit, cover gaps in cash flows, and expand into new regions and markets.
* Liabilities are classified as current if due to be paid with current assets within the current operating cycle of the business or within one year of the balance sheet date (whichever is longer). All other liabilities are considered long term.

**LO 10-2 Explain how to account for common types of current liabilities.**

* Liabilities are initially reported at their cash equivalent value, which is the amount of cash that a creditor would accept to settle the liability immediately after the transaction or event occurred.
* Liabilities are increased whenever additional obligations arise (including interest) and are reduced whenever the company makes payments or provides services to the creditor.

**LO 10- 3 Analyze and record bond liability transactions.**

* For most public issuances of debt (bonds), the amount borrowed by the company does not equal the amount repaid at maturity. The effect of a bond discount is to provide the borrower less money than the value stated on the face of the bond, which increases the cost of borrowing above the interest rate stated on the bond. The effect of a bond premium is to provide the borrower more money than the face value repaid at maturity, which decreases the cost of borrowing below the stated interest rate.
* Interest Expense reports the cost of borrowing, which equals the periodic interest payments plus (or minus) the amount of the bond discount (or premium) amortized in that interest period.

**LO 10-4 Describe how to account for contingent liabilities.**

* A contingent liability is a potential liability (and loss) that has arisen as a result of a past transaction or event. Its ultimate outcome will not be known until a future event occurs or fails to occur. Under GAAP, it is recorded when likely and reasonably estimable.

**LO 10-5 Calculate and interpret the debt-to-assets ratio and the times interest earned ratio.**

* The debt-to-assets ratio is calculated by dividing total liabilities by total assets. It indicates the percentage of assets financed by creditors, with a higher ratio indicating a riskier financing strategy.
* The times interest earned ratio measures a company’s ability to meet its interest obligations with resources generated from its profit-making activities.

***Accounting Decision Tools***

1. **Debt-to-Assets Ratio = Total Liabilities ÷ Total Assets**

* It tells you the percentage of assets financed by creditors.
* A higher ratio means greater financing risk.

1. **Times Interest Earned Ratio = (Net Income + Interest Expense + Income Tax Expense) ÷   
    Interest Expense**

* It tells you whether sufficient resources are generated to cover interest costs.
* The higher the number the better the coverage.

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| Chapter Outline | Teaching Notes |
| I. Understand the Business |  |
| ***LO 10-1 Explain the role of liabilities in financing a business.*** | |
| A. The Role of Liabilities |  |
| 1. Liabilities are created when a company buys goods and services on credit, obtains short-term loans to cover gaps in cash flows, and issues long-term debt to obtain money for expanding into new regions and markets. |  |
| 2. To help financial statement users know when liabilities must be repaid, companies prepare a classified balance sheet. | Illustrated in Exhibit 10.1 |
| 3. **Current Liabilities**––Short-term obligations that will be paid or fulfilled within the current operating cycle or one year, whichever is longer. |  |
| II. Study the Accounting Methods |  |
| A. Measuring Liabilities |  |
| 1. The dollar amount reported for liabilities is the result of three things: |  |
| a. The initial amount of the liability—Initially, a company records each liability at the amount of cash that a creditor would accept to settle the liability immediately after the transaction or event occurred. |  |
| b. Additional amounts owed to the creditor—The company increases liabilities whenever additional obligations arise, by purchasing goods or services, receiving customer deposits, or incurring interest charges over time. |  |
| c. Payments or services provided to the creditor—The company decreases liabilities whenever the company makes payments or provides services to the creditor. |  |
| ***LO 10-2 Explain how to account for common types of current liabilities.*** | |
| B. Current Liabilities |  |
| 1. Accounts Payable |  |
| a. Increased (credited) when a company receives goods or services on credit and it is decreased (debited) when the company pays on its account. |  |
| b. Interest free unless it becomes overdue. |  |
| 2. Accrued Liabilities | Illustrated in Exhibit 10.2 |
| a. Report the liability for expenses that have been incurred but not paid at the end of the accounting period. |  |
| b. Recorded in adjustments at the end of the accounting period. |  |
| c. Relate to various unpaid expenses, including advertising, electricity, corporate income tax, interest, payroll tax, and warranties. |  |

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| Chapter Outline | Teaching Notes |
| 3. Accrued Payroll |  |
| a. Payroll Deductions |  |
| i. Gross earnings—Computed by multiplying the time worked by the pay rate promised by the employer. |  |
| ii. Payroll deductions—Amounts subtracted from employees’ gross earnings to determine their net pay. | Illustrated in Exhibit 10.3 |
| * Payroll deductions create current liabilities for the employer. |  |
| * Either required by law or voluntarily requested by employees. |  |
| * FICA taxes withheld—Amounts paid for Medicare and Social Security as required by the Federal Insurance Contributions Act; in 2014, employers were required to withhold 1.45% from each employee’s earnings for Medicare as well as 6.2% on earnings up to $117,000 for Social Security. |  |
| * Employers use these same methods to account for any other payroll deductions (including voluntary deductions for charitable donations, parking, union dues, retirement savings, etc.). |  |
| iii. Net pay—Equals gross earnings less payroll deductions. |  |
| iv. Gross pay for all employees totals $600,000; $58,000 is withheld for employees’ income tax payable; $48,800 is withheld for FICA taxes; and $10,000 is withheld for voluntary United Way contributions. |  |
| * Analyze:  Assets = Liabilities + Stockholders’ Equity Cash (A) –483,200; Withheld Income Tax Payable (L) +58,000; FICA Payable (L) +48,800; United Way Payable (L) +10,000; Wages and Salaries Expense (E) –600,000 |  |
| * Record: |  |
| |  |  |  | | --- | --- | --- | | Wages and Salaries Expense | 600,000 |  | | Withheld Income Tax Payable |  | 58,000 | | FICA Payable |  | 48,800 | | United Way Payable |  | 10,000 | | Cash |  | 483,200 | |  |

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| Chapter Outline | Teaching Notes |
| b. Employer Payroll Taxes |  |
| 1. Employers are also required to pay FICA taxes equal to 100% of total employee contributions (called a “matching” contribution). | * Supplemental Enrichment Activity (Activity) #1 |
| 2. Employers are also required by the Federal Unemployment Tax Act (FUTA) and State Unemployment Tax Act (SUTA) to pay unemployment taxes; the rates vary. |  |
| 3. Reporting: |  |
| * Payroll taxes are reported as an additional operating expense on the income statement. |  |
| * Until paid, liabilities for these taxes are reported as current liabilities. |  |
| 4. The company was required to contribute $48,800 for FICA, $750 for federal unemployment tax, and $4,000 for state unemployment tax. |  |
| * Analyze:  Assets = Liabilities + Stockholders’ Equity FICA Payable (L) +48,800; Unemployment Tax Payable (L) +4,750; Payroll Tax Expense (E) –53,550 |  |
| * Record: |  |
| |  |  |  | | --- | --- | --- | | Payroll Tax Expense | 53,550 |  | | FICA Payable |  | 48,800 | | Unemployment Tax Payable |  | 4,750 | |  |
| 5. When the amounts withheld and payroll taxes are paid, the related liability accounts decrease (with debits) and Cash decreases (with a credit). |  |
| c. Accrued Income Taxes—Corporations pay taxes not only on payroll but also on income they earn. |  |
| 1. The corporate tax return, Form 1120, is similar to the company’s income statement, except that it calculates taxable income by subtracting tax-allowed expenses from revenues. |  |
| 2. This taxable income is then multiplied by a tax rate, which ranges from about 15% to 35%. |  |
| 3. Corporate income taxes are due two and a half months after year-end, although most corporations are required to pay advance installments during the year. |  |

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| Chapter Outline | Teaching Notes |
| 4. Notes Payable | *Stress that the accounting for* |
| a. Notes Payable—A liability that represents the amount the company owes to others as a result of issuing promissory notes. | *notes payable mirrors that of notes receivable (chapter 8)* |
| b. Establish the note payable | * Activity #2 |
| i. On November 1, 2015, the company borrowed $100,000 cash on a one-year note that required it to pay 6% interest and $100,000 principal, both on October 31, 2016. |  |
| ii. Analyze:  Assets = Liabilities + Stockholders’ Equity Cash (A) +100,000; Note Payable (L) +100,000 |  |
| iii. Record: |  |
| |  |  |  | | --- | --- | --- | | Cash | 100,000 |  | | Note Payable |  | 100,000 | |  |
| c. Accrue interest incurred by not paid |  |
| i. Under accrual accounting, interest must be recorded as it is incurred over time. | Illustrated in Exhibit 10.4 |
| ii. Interest owed on the note is calculated as Interest × Principal Owed × Interest Rate × Time. |  |
| iii. From the date the note was established (11/1/15) to the end of the year (12/31/15), the company incurred two months of interest expense, which equals $1,000 (or $100,000 × 6% × 2/12). |  |
| * Analyze:  Assets = Liabilities + Stockholders’ Equity Interest Payable (L) +1,000; Interest Expense (E) –1,000 |  |
| * Record: |  |
| |  |  |  | | --- | --- | --- | | Interest Expense | 1,000 |  | | Interest Payable |  | 1,000 | |  |
| d. Record interest paid |  |
| i. At maturity, the company pays interest of $6,000 (or $100,000 × 6% × 12/12), which includes the $1,000 that was accrued as Interest Payable at 12/31/15, plus interest expense incurred during the 10 months between 1/1/16 and 10./31/16 of $5,000 (or $100,000 × 6% × 10/12). |  |
| ii. Analyze:  Assets = Liabilities + Stockholders’ Equity Cash (A) ­–6,000; Interest Payable (L) –1,000; Interest Expense (E) –5,000 |  |
| iii. Record: |  |
| |  |  |  | | --- | --- | --- | | Interest Payable | 1,000 |  | | Interest Expense | 5,000 |  | | Cash |  | 6,000 | |  |

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| Chapter Outline | Teaching Notes |
| e. Record principal paid—At maturity, the company will record the payment of the note by debiting Notes Payable and crediting Cash |  |
| 5. Additional Current Liabilities |  |
| a. Sales Tax Payable—Retail companies are required to charge a sales tax in all but five states. |  |
| i. Retailers collect sales tax from consumers at the time of sale and forward it to the state government. |  |
| ii. The sales tax collected by the company is reported as a current liability until paid; the sales tax collected is not an expense to the retailer because the tax is simply collected and passed on to the government. |  |
| iii. Retailers record sales by debiting Cash (for the amount collected by the customer), crediting Sales Tax Payable (for the amount of the sale times the tax rate) and crediting Sales Revenue. |  |
| iv. The payment of the sales tax by the retailer to the state government would be recorded by debiting Sales Tax Payable and crediting Cash. |  |
| b. Unearned Revenue | * Activity #3 |
| i. Receive cash and create a liability—When a company receives cash from a customer before providing the goods or services, it initially debits Cash and credits a liability called Unearned Revenue. | *Remind students that Unearned Revenues were covered in chapter 4.* |
| ii. Fulfill part of the liability and earn revenue |  |
| * As each accounting period passes, the company will make an adjustment to show that it has continued to fulfill its obligation and earn its revenues. | The “Spotlight on Business Decisions” feature addresses jumpstarting a business with crowdfunding. |
| * The adjustment decreases Unearned Revenue (with a debit) and increases Service Revenue (with a credit). |  |
| 6. Current Portion of Long-Term Debt |  |
| a. If a company borrows money with the promise to repay it after the current operating cycle or one year, whichever is longer, the amount of the loan is classified as long-term debt. |  |
| b. Only the accrued interest on the loan is reported as a current liability in that year’s balance sheet. |  |

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| Chapter Outline | Teaching Notes |
| C. Long-Term Liabilities |  |
| ***LO 10-3 Analyze and record bond liability transactions.*** | |
| 1. Financial instruments that outline the future payments a company promises to make in exchange for receiving a sum of money now. |  |
| 2. Bonds—Financial instruments that outline the future payments a company promises to make in exchange for receiving a sum of money now. |  |
| a. From the company’s perspective, the bond is a long-term liability. |  |
| b. From the bondholder’s perspective, the bond is an investment; bonds can be attractive because: |  |
| i. They return higher interest rates than bank savings accounts, and after a company issues the bonds, they can be traded on established exchanges. |  |
| ii. After a company issues the bonds, they can be traded on established exchanges. |  |
| c. Three key elements of a bond: |  |
| i. **Maturity Date**—The date on which the bonds are due to be paid in full. |  |
| ii. **Face Value**—The payment made when the bond matures. |  |
| iii. **Stated Interest Rate**—The rate stated on the face of the bond, which is used to compute interest payments |  |
| 3. Bond Pricing |  |
| a. Bond **Issue Price**––The amount that investors are willing to pay on the issue date in exchange for the cash payments that the company promises to make over the life of the bond. | The “Spotlight on Financial Reporting” feature addresses bond prices in the financial press. |
| b. Theoretically, the issue price is based on **Present**  **Value**––A mathematical calculation that determines the amount that one or more payments made in the future are worth today. | *Described in Appendix C at the end of this book.* |
| 4. Accounting for a Bond Issue |  |
| a. The amount of cash the company receives from investors when the bonds are first issued may be equal to the face value, above the face value, or below the face value. |  |
| i. A bond is issued at a premium when the issue price is greater than the face value; **Premium**––the amount by which a bond’s issue price exceeds its face value. |  |
| ii. A bond is issued at a discount when the issue price is less than the face value; **Discount**––The amount by which a bond’s issue price is less than its face value. |  |

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| Chapter Outline | Teaching Notes |
| b. Bonds Issued at Face Value |  |
| i. The company receives $100,000 cash in exchange for issuing 100 bonds at their $1,000 face value. |  |
| ii. Analyze:  Assets = Liabilities + Stockholders’ Equity Cash (A) +100,000; Bonds Payable (L) +100,000 |  |
| iii. Record: |  |
| |  |  |  | | --- | --- | --- | | Cash | 100,000 |  | | Bonds Payable |  | 100,000 | |  |
| c. Bonds Issued at a Premium |  |
| i. The company issues 100 of its $1,000 bonds at a price of 107.26 and receives $107,260 (or 100 × $1,000 × 1.0726). |  |
| ii. Analyze:  Assets = Liabilities + Stockholders’ Equity Cash (A) +107,260; Bonds Payable (L) +100,000; Premium on Bonds Payable (L) +7,260 |  |
| iii. Record: |  |
| |  |  |  | | --- | --- | --- | | Cash | 107,260 |  | | Bonds Payable |  | 100,000 | | Premium on Bonds   Payable |  | 7,260 | |  |
| iv. If a bond offers something attractive, such as a high interest rate, bondholders may be willing to pay a premium to acquire it. |  |
| d. Bonds Issued at a Discount |  |
| i. The company receives $93,376 for bonds with a total face value of $100,000; the discount of $6,624 (or $100,000 – $93,376) offsets the face value, so accountants will record it in a contra-liability account (identified as xL). |  |
| ii. Analyze:  Assets = Liabilities + Stockholders’ Equity Cash (A) +93,376; Bonds Payable (L) +100,000; Discount on Bonds Payable (xL) +6,624 |  |
| iii. Record: |  |
| |  |  |  | | --- | --- | --- | | Cash | 93,376 |  | | Discount on Bonds   Payable | 6,624 |  | | Bonds Payable |  | 100,000 | |  |
| iv. If a bond promises to pay interest at a stated rate of 6 percent when other financial instruments offer 8 percent, no one will be willing to buy the bond unless the company discounts it. |  |
| v. The discount increases the return that bondholders earn on their initial investment. |  |
| vi. **Market Interest Rate**––The rate of interest that investors demand from a bond. |  |

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| Chapter Outline | Teaching Notes |
| e. Reporting Bond Liabilities |  |
| i. The total face value of a bond plus any related premium or minus any related discount is reported in the liabilities section of the balance sheet. | Illustrated in Exhibit 10.5 |
| ii. Carrying value—The amount of the bond liability, after taking into account any premium or discount. |  |
| iii. To determine whether a bond will be issued at a premium, at face value, or at a discount, consider only the relationship between the stated interest rate on the bond (what the bond pays in cash) and the market interest rate (the return that bondholders require). | Illustrated in Exhibit 10.6 |
| 5. Interest Expense |  |
| a. As time passes, a bond liability creates interest expense, which is matched to each period in which the liability is owed. |  |
| b. Because interest expense arises from a financing decision (not an operating decision), it is reported below the Income from Operations line on the company’s income statement. |  |
| c. Interest on Bonds Issued at Face Value |  |
| i. When bonds have issued at face value, the process of calculating and recording interest on bonds is similar to that for Notes Payable. |  |
| ii. On 1/1/15, the company receives $100,000 for bonds issued at their $1,000 face value. Assuming no previous accrual of interest, the company has incurred interest of $500 (or $100,000 × 6% × 1/12) for the month ended 1/31/15. |  |
| ii. Analyze:  Assets = Liabilities + Stockholders’ Equity Interest Payable (L) +500; Interest Expense (E)  –500 |  |
| iii. Record: |  |
| |  |  |  | | --- | --- | --- | | Interest Expense | 500 |  | | Interest Payable |  | 500 | |  |
| iii. When interest is paid, Interest Payable will be decreased (with a debit) and Cash will be decreased (with a credit). |  |
| d. Interest on Bonds Issued at a Premium |  |
| i. When bonds are issued at a premium, the bond issuer receives more cash on the issue date than it repays on the maturity date. | Amortizing a bond premium illustrated in Exhibit 10.7 |
| ii. The premium isn’t exactly “free money,” but rather is a reduction in the company’s cost of borrowing. |  |

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| Chapter Outline | Teaching Notes |
| iii. For accounting purposes, we match the reduced borrowing cost to the periods in which the bond remains unpaid. |  |
| iv. Bond amortization—Makes the Interest Expense smaller than the actual interest payment and, at the same time, causes the balance in Premium on Bonds Payable to decline each period. | *Procedures for amortizing bond premiums are covered Supplements 10A, 10B, and 10C.* |
| e. Interest on Bonds Issued at a Discount |  |
| i. When bonds issue at a discount, the bond issuer receives less cash on the issue date than it repays on the maturity date. | Amortizing a bond discount illustrated in Exhibit 10.8 |
| ii. The discount is an increase in the company’s cost of borrowing. |  |
| iii. For accounting purposes, we match the increased borrowing cost to the periods in which the bond remains unpaid. |  |
| iv. This amortization causes the Interest Expense to be more than the interest payment and, at the same time, causes Discount on Bonds Payable to decrease each period. |  |
| 6. Bond Retirements |  |
| a. Most bonds are retired (paid off) at maturity. |  |
| i. The company retires bonds with a payment equal to their $100,000 face value. |  |
| ii. Analyze:  Assets = Liabilities + Stockholders’ Equity Cash (A) –100,000; Bonds Payable (L) –100,000 |  |
| iii. Record: |  |
| |  |  |  | | --- | --- | --- | | Bonds Payable | 100,000 |  | | Cash |  | 100,000 | |  |
| b. Early Retirement |  |
| i. A company with lots of cash often retires their bonds early to avoid the related interest expense. |  |
| ii. Even companies that don’t have extra cash might retire bonds early if interest rates have fallen since the original bonds were issued. |  |
| * The companies would issue new bonds at the lower interest rate and use the money they receive from the new bonds to retire the old ones before maturity. |  |
| * This decision reduces interest expense, which increases future earnings. |  |

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| Chapter Outline | Teaching Notes |
| iii. Financial effects: (1) cash is paid by the borrower, (2) the borrower’s bond liability is eliminated, and (3) either a gain arises or a loss is incurred. |  |
| * A gain arises if the cash that must be paid to retire the bonds is less than the carrying value of the bonds. |  |
| * A loss is incurred if the company has to pay more than the carrying value of the bonds at the time of retirement. |  |
| iv. The company retires $100,000 of bonds issued at face value at a bond price of 102 for cash of $102,000 (or $100,000 × 1.02). |  |
| * Analyze:  Assets = Liabilities + Stockholders’ Equity Cash (A) –102,000; Bonds Payable (L) –100,000; Loss on Bond Retirement (E) –2,000 |  |
| * Record: |  |
| |  |  |  | | --- | --- | --- | | Bonds Payable | 100,000 |  | | Loss on Bond   Retirement | 2,000 |  | | Cash |  | 102,000 | |  |
| v. Gains and losses on early bond retirements are reported after Income from Operations on the income statement. |  |
| vi. If the bonds had been issued below or above face value, any premium or discount balance that existed at the time of retirement would need to be removed as well. |  |
| 7. Types of Bonds—Two categories: |  |
| a. Those that describe the type of organization that issued the bonds. |  |
| i. U.S. Treasury Department (“treasuries”) |  |
| ii. Bonds issued by municipal organizations (“munis”) |  |
| iii. Corporations (“corporates”). |  |
| b. Those that describe specific features of the bond. |  |
| i. Backed by collateral (“secured”) or not (“debentures”). |  |
| ii. Can be called in by the issuing corporation and exchanged for cash (“callable”) or converted into shares of its stock (“convertible”). |  |
| iii. Mature in a series of installments (“serial bonds”) rather than all at once (“term bonds”) |  |
| iv. Include no periodic interest payments (“strips” and “zero-coupon bonds”). |  |

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| Chapter Outline | Teaching Notes |
| ***LO 10-4 Describe how to account for contingent liabilities.*** | |
| D. **Contingent Liability**––Potential liability that has arisen as a result of a past transaction or event; ultimate outcome will not be known until a future event occurs or fails to occur. |  |
| 1. Contingent liabilities are different than other liabilities because their dependence on a future event introduces a great deal of uncertainty. |  |
| 2. Likelihood of liability and whether amount can be reasonably estimated determine reporting: | Summarized in Exhibit 10.9 |
| a. Probable and can be reasonably estimated—record the liability and estimated loss. |  |
| b. Probable but cannot be reasonably estimated—describe in financial statement notes. | The “Spotlight on the World” feature addresses the concept |
| c. Reasonably possible—describe in financial statement notes. | of certainty. |
| d. Remote—describe in financial statement notes. |  |
| III. Evaluate the Results |  |
| ***LO 10-5 Calculate and interpret the debt-to-assets ratio and the times interest earned ratio.*** | |
| A. Debt-to-Assets Ratio |  |
| 1. **Debt-to-assets ratio**––Indicates financing risk by computing the proportion of total assets financed by liabilities. |  |
| 2. Debt-to-Assets Ratio = Total Liabilities ÷ Total Assets |  |
| 3. Calculated to three decimal places and expressed as a percentage by multiplying by 100. |  |
| 4. Higher ratio suggests greater financing risk. |  |
| a. Raises possibility that company will not be able to generate enough profit from its debt-financed business to cover interest charged on its debt. |  |
| b. If the company defaults on its payments, it can be forced into bankruptcy. |  |
| B. Times Interest Earned Ratio (fixed charge coverage ratio) |  |
| 1. **Times Interest Earned Ratio**––Divides net income before interest and taxes by interest expense to determine the extent to which earnings before taxes and financing costs are sufficient to cover interest incurred on debt. | The “Spotlight on The World” feature addresses the impact of violated loan covenants. |
| 2. Times Interest Earned Ratio = (Net Income + Interest Expense + Income Tax Expense) ÷ Interest Expense. |  |
| 3. Analysts want to know whether a company generates enough income to cover its interest expense before the costs of financing and taxes. |  |
| 4. In general, a high times interest earned ratio is viewed more favorably than a low one; a high ratio indicates an extra margin of protection should the company’s profitability decline in the future. |  |
| 5. When less than 1.0, the company is not generating enough operating income to cover its interest expense. |  |

|  |  |
| --- | --- |
| Chapter Outline | Teaching Notes |
| IV. Chapter Supplement 10A: Straight-Line Amortization |  |
| ***LO 10-S-1 Use straight-line bond amortization.*** | |
| A. **Straight-Line Method of Amortization**—Reduces the premium or discount by an equal amount each period. |  |
| 1. Because this method results in an equal amount each period, it is easy to apply. |  |
| 2. However, it distorts the financial results somewhat because it produces an equal Interest Expense each period, even though the bond’s carrying value changes each period. |  |
| 3. For this reason, the straight-line method may be used only when it does not materially differ from the effective-interest method of amortization (presented in Supplement 10B). |  |
| B. Bond Premiums | * Activity #5 |
| 1. Under the straight-line method, the premium is spread evenly as a reduction in interest expense over the life of the bond (that is, the amount of the premium is divided by the life to obtain the annual premium amortization). |  |
| 2. The company would record the interest owed at the end of the accounting period by increasing Interest Expense (with a debit), decreasing Premium on Bonds Payable for the amount of the amortization (with a debit), and decreasing Cash for the amount to be paid to the bondholder (with a credit). |  |
| 3. This process continues until the bond matures, at which point the Premium on Bonds Payable account will be fully amortized to zero. |  |
| C. Bond Discounts | * Activity #4 |
| 1. Under the straight-line method, the discount is spread evenly as a reduction in interest expense over the life of the bond (that is, the amount of the discount is divided by the life to obtain the annual discount amortization). |  |
| 2. The company would record the interest owed at the end of the accounting period by increasing Interest Expense (with a debit), decreasing Discount on Bonds Payable for the amount of the amortization (with a debit), and decreasing Cash or the amount to be paid to the bondholder (with a credit). |  |
| 3. This process continues until the bond matures, at which point the Discount on Bonds Payable account will be fully amortized to zero. |  |

|  |  |
| --- | --- |
| Chapter Outline | Teaching Notes |
| V. Chapter Supplement 10B: Effective-Interest Amortization |  |
| ***LO 10-S-2 Use effective-interest bond amortization.*** | |
| A. Required by Generally Accepted Accounting Principles |  |
| 1. **Effective-Interest Method of Amortization**––Allocates the amount of bond premium or discount over each period of a bond’s life in amounts corresponding to the bond’s carrying value. | Computing present value of bond payments illustrated in Exhibit 10B.1 |
| 2. Considered a conceptually superior method of accounting for bonds because it correctly calculates interest expense by multiplying the true cost of borrowing times the amount of money actually owed to lenders. |  |
| 3. The true cost of borrowing is the market interest rate that lenders used to determine the bond issue price. |  |
| B. Bond Premiums | * Activity #5 |
| 1. Interest expense for the year equals amount actually borrowed (i.e., the carrying value or Bonds Payable plus the Premium on Bonds Payable at the date of the calculation) times the market interest rate for the year. |  |
| 2. The difference between the interest expense and the promised interest payment is the amount of premium that is amortized. |  |
| 3. The company would record the interest owed at the end of the accounting period as described above for straight-line amortization; the amounts recorded as Interest Expense and Premium on Bonds Payable would be as calculated above in 1 and 2. |  |
| 4. The process continues until the bond matures, at which point the Premium on Bonds Payable account will be fully amortized to zero. |  |
| C. Bond Discounts | * Activity #4 |
| 1. Interest expense for the year equals amount actually borrowed (i.e., the carrying value or Bonds Payable less Discount on Bonds Payable at the date of the calculation) times the market interest rate for the year. | Sample balance sheet reporting illustrated in Exhibit 10B.2 |
| 2. The difference between the interest expense and the promised interest payment is the amount of discount that is amortized. |  |
| 3. The company would record the interest owed at the end of the accounting period as described above for straight-line amortization; the amounts recorded as Interest Expense and Discount on Bonds Payable would be as calculated above in 1 and 2. |  |
| 4. The process continues until the bond matures, at which point the Discount on Bonds Payable account will be fully amortized to zero. |  |

|  |  |
| --- | --- |
| Chapter Outline | Teaching Notes |
| VI. Chapter Supplement C: Simplified Effective-Interest Amortization |  |
| ***LO 10-S-3 Use simplified effective-interest bond amortization.*** | |
| A. When using this simplified method, rather than record a discount or premium in a separate account, it is combined with the bonds payable in an account called Bonds Payable, Net. |  |
| B. Accounting for Bond Issue |  |
| 1. When bonds are issued at a premium, rather than record the Bonds Payable at face value with a Premium on Bonds Payable account, the two are combined in an account called Bonds Payable, Net. |  |
| 2. When bonds are issued at a discount, rather than record the Bonds Payable at face value, with an offsetting Discount on Bonds Payable account, the two are combined in an account called Bonds Payable, Net. |  |
| 3. One of the advantages of this simplified approach is that there is no need to choose between the straight-line or effective-interest method of amortization because there is no discount or premium account to amortize. |  |
| C. Interest Expense |  |
| 1. As time passes, the company incurs Interest Expense on its bond liability. |  |
| 2. Because the bond liability was recorded in a single account, the interest calculation is the same whether the bond has been issued at a premium or discount. |  |
| 3. The following version of the interest formula is used to compute Interest Expense:  Interest (I) = Principal (P) × Interest Rate (R) × Time (T) or  Interest Expense = Bonds Payable, Net × Market Interest Rate × n/12. |  |
| D. Bond Premiums |  |
| 1. Because the cash interest payment exceeds the Interest Expense, the company records a reduction in Bonds Payable, Net. |  |
| 2. Similar calculations and accounting effects occur each period until the bonds mature. |  |
| a. The only thing to watch out for is that Bonds Payable, Net decreases each year because the cash payment includes a partial repayment of the bond liability. |  |
| b. This new balance is used to compute Interest Expense for the following year. |  |

|  |  |
| --- | --- |
| Chapter Outline | Teaching Notes |
| E. Bond Discounts |  |
| 1. Because the cash interest payment is less than the Interest Expense, the company records an increase in Bonds Payable, Net. |  |
| 2. Similar calculations and accounting effects occur each period until the bonds mature. |  |
| a. The only thing to watch out for is that Bonds Payable, Net increases each year because the cash payment includes a partial repayment of the bond liability. |  |
| b. This new balance is used to compute Interest Expense for the following year. |  |

**Supplemental Enrichment Activities**

Note: These activities would be suitable for individual or group activities.

1. Handout 10–1

Use Handout 10–1 for an in-class activity to review entries relating to payroll. The solution follows the handout master.

1. Handout 10–2

Use Handout 10-2 for an in-class activity to review the issuance of a note payable. The solution follows the handout master.

1. Handout 10–3

Use Handout 10–3 for an in-class activity to review the accounting for unearned revenues. The solution follows the handout master.

1. Handout 10–4

Use Handout 10–4 for an in-class activity to review the issuance of bonds at a discount using both straight-line and effective-interest amortization. The solution follows the handout master.

1. Handout 10–5

Use Handout 10–5 for an in-class activity to review the issuance of bonds at a premium using both straight-line and effective-interest amortization. The solution follows the handout master.

# HANDOUT 10–1

# PAYROLL ENTRIES

J&W Buffet Co. employees earned $350,000 in the week ended December 17, 2016. Of this, $26,775 was withheld from employees’ pay for FICA and $62,000 for income taxes. The net pay was directly deposited into the employees’ bank accounts. The company must pay $200 for federal unemployment taxes and $1,000 for state unemployment taxes.

Prepare the journal entry to record the employees’ portion of payroll for December 17, 2016.

|  |
| --- |
| Debit and credit the accounts affected |
| |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | |  |  |  |  | |
| Ensure the equation still balances and debits = credits |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Assets** | | **=** | **Liabilities** | | **+** | **Stockholders’ Equity** | | |  |  |  |  |  |  |  |  | |

Prepare the journal entry to record the employer payroll taxes for December 17, 2016.

|  |
| --- |
| Debit and credit the accounts affected |
| |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |
| Ensure the equation still balances and debits = credits |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Assets** | | **=** | **Liabilities** | | **+** | **Stockholders’ Equity** | | |  |  |  |  |  |  |  |  | |

# HANDOUT 10–1 SOLUTION

# PAYROLL ENTRIES

J&W Buffet Co. employees earned $350,000 in the week ended December 17, 2016. Of this, $26,775 was withheld from employees’ pay for FICA and $62,000 for income taxes. The net pay was directly deposited into the employees’ bank accounts. The company must pay $1,200 for unemployment taxes.

Prepare the journal entry to record the employees’ portion of payroll for December 17, 2016.

|  |
| --- |
| Debit and credit the accounts affected |
| |  |  |  |  | | --- | --- | --- | --- | | Dec. 17 | Salaries and Wages Expense | 350,000 |  | | 2016 | Withheld Income Taxes Payable |  | 62,000 | |  | FICA Payable |  | 26,775 | |  | Cash |  | 261,225 | |
| Ensure the equation still balances and debits = credits |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Assets** | | **=** | **Liabilities** | | **+** | **Stockholders’ Equity** | | | Cash | –261,225 |  | Withheld Income Taxes Payable | +62,000 |  | Salaries and Wages Expense | –350,000 | |  |  |  | FICA Payable | +26,775 |  |  |  | |

Prepare the journal entry to record the employer’s share of FICA payroll taxes for December 17, 2016.

|  |
| --- |
| Debit and credit the accounts affected |
| |  |  |  |  | | --- | --- | --- | --- | | Dec. 17 | Payroll Tax Expense | 27.975 |  | | 2016 | FICA Payable |  | 26,775 | |  | Unemployment Tax Payable |  | 1,200 | |
| Ensure the equation still balances and debits = credits |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Assets** | | **=** | **Liabilities** | | **+** | **Stockholders’ Equity** | | |  |  |  | FICA  Payable Unemployment Tax Payable | +26,775  +1,200 |  | Salaries and Wages Expense | –27,975 | |

# HANDOUT 10–2

# NOTES PAYABLE

Mumford Co. borrowed a $100,000 note payable on June 1, 2016, with 6% interest. The note is due on May 31, 2017.

Prepare the journal entry to record the issuance of the note and receipt of cash on June 1, 2016.

|  |
| --- |
| Debit and credit the accounts affected |
| |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | |  |  |  |  | |
| Ensure the equation still balances and debits = credits |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Assets** | | **=** | **Liabilities** | | **+** | **Stockholders’ Equity** | | |  |  |  |  |  |  |  |  | |

Prepare the adjusting journal entry to record the interest owed at the end of the accounting period on December 31, 2016.

|  |
| --- |
| Debit and credit the accounts affected |
| |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | |  |  |  |  | |
| Ensure the equation still balances and debits = credits |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Assets** | | **=** | **Liabilities** | | **+** | **Stockholders’ Equity** | | |  |  |  |  |  |  |  |  | |

Prepare the journal entries to record the interest and principal payments to the lender on May 31, 2017.

|  |
| --- |
| Debit and credit the accounts affected |
| |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | |  |  |  |  | |
| Ensure the equation still balances and debits = credits |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Assets** | | **=** | **Liabilities** | | **+** | **Stockholders’ Equity** | | |  |  |  |  |  |  |  |  | |

# HANDOUT 10–2 SOLUTION

# NOTES PAYBLE

Mumford Co. borrowed a $100,000 note payable on June 1, 2016, with 6% interest. The note is due on May 31, 2011.

Prepare the journal entry to record the issuance of the note and receipt of cash on June 1, 2016.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  | | --- | --- | --- | --- | | June 1 | Cash | 100,000 |  | | 2016 | Note Payable |  | 100,000 | | |
|  |  |
| + Cash (A) –   |  |  |  |  | | --- | --- | --- | --- | | June 1 | 100,000 |  |  | |  |  |  |  | | – Note Payable (L) +   |  |  |  |  | | --- | --- | --- | --- | |  |  | 100,000 | June 1 | |  |  |  |  | |

Prepare the adjusting journal entry to record the interest owed at the end of the accounting period on December 31, 2016.

Principal × Rate × Time Period = 100,000 × 6% × 7/12 = $3,500

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  | | --- | --- | --- | --- | | Dec. 31 | Interest Expense | 3,500 |  | | 2016 | Interest Payable |  | 3,500 | | |
|  |  |
| – Interest Payable (L) +   |  |  |  |  | | --- | --- | --- | --- | |  |  | 3,500 | Dec. 31 | |  |  |  |  | | + Interest Expense (E) –   |  |  |  |  | | --- | --- | --- | --- | | Dec. 31 | 3,500 |  |  | |  |  |  |  | |

Prepare the journal entries to record the interest and principal payments to the lender on May 31, 2017.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  | | --- | --- | --- | --- | | May. 31 | Interest Expense (100,000 × 6% × 5/12) | 2,500 |  | | 2017 | Interest Payable | 3,500 |  | |  | Cash (100,000 × 6% × 12/12) |  | 6,000 | |  |  |  |  | | May 31 | Note Payable | 100,000 |  | | 2017 | Cash |  | 100,000 | | |
|  |  |
| + Cash (A) –   |  |  |  |  | | --- | --- | --- | --- | | June 1 | 100,000 |  |  | |  |  |  | 2011 | |  |  | 6,000 | May 31 | |  |  | 100,000 | May 31 | | + Interest Expense (E) –   |  |  |  |  | | --- | --- | --- | --- | | May 31 | 2,500 |  |  | |  |  |  |  | |
|  |  |
| – Interest Payable (L) +   |  |  |  |  | | --- | --- | --- | --- | |  |  | 3,500 | Dec. 31 | | 2011 |  |  |  | | May 31 | 3,500 |  |  | | – Note Payable (L) +   |  |  |  |  | | --- | --- | --- | --- | |  |  | 100,000 | June 1 | | 2011 |  |  |  | | May 31 | 100,000 |  |  | |

# HANDOUT 10–3

# UNEARNED REVENUE

On January 1, 2017, Charlie Rangel paid $2,000 for a two–year membership to the Beam Gym.

Prepare the journal entry to record the receipt of cash on January 1, 2017.

|  |
| --- |
| Debit and credit the accounts affected |
| |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | |  |  |  |  | |
| Ensure the equation still balances and debits = credits |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Assets** | | **=** | **Liabilities** | | **+** | **Stockholders’ Equity** | | |  |  |  |  |  |  |  |  | |

By December 31, 2017, one half of Rangel’s membership expired. Prepare the required adjusting journal entry on that date.

|  |
| --- |
| Debit and credit the accounts affected |
| |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | |  |  |  |  | |
| Ensure the equation still balances and debits = credits |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Assets** | | **=** | **Liabilities** | | **+** | **Stockholders’ Equity** | | |  |  |  |  |  |  |  |  | |

By December 31, 2018, the remainder of Rangel’s membership expired. Prepare the required adjusting journal entry on that date.

|  |
| --- |
| Debit and credit the accounts affected |
| |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | |  |  |  |  | |
| Ensure the equation still balances and debits = credits |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Assets** | | **=** | **Liabilities** | | **+** | **Stockholders’ Equity** | | |  |  |  |  |  |  |  |  | |

Post the entries above to the Unearned Revenue account:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| – Unearned Revenue (L) +   |  |  |  |  | | --- | --- | --- | --- | |  |  |  | 1/1/17 | | 12/31/17 |  |  |  | |  |  |  | End Bal. | | 12/31/18 |  |  |  | |  |  |  | End Bal. | |

# HANDOUT 10–3 SOLUTION

# UNEARNED REVENUE

On January 1, 2017, Charlie Rangel paid $2,000 for a two–year membership to the Beam Gym.

Prepare the journal entry to record the receipt of cash on January 1, 2017.

|  |
| --- |
| Debit and credit the accounts affected |
| |  |  |  |  | | --- | --- | --- | --- | | Jan. 1 | Cash | 2,000 |  | | 2017 | Unearned Revenue |  | 2,000 | |
| Ensure the equation still balances and debits = credits |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Assets** | | **=** | **Liabilities** | | **+** | **Stockholders’ Equity** | | | Cash | +2,000 |  | Unearned Revenue | +2,000 |  |  |  | |

By December 31, 2017, one half of Rangel’s membership expired. Prepare the required adjusting journal entry on that date.

|  |
| --- |
| Debit and credit the accounts affected |
| |  |  |  |  | | --- | --- | --- | --- | | Dec. 31 | Unearned Revenue | 1,000 |  | | 2017 | Service Revenue |  | 1,000 | |
| Ensure the equation still balances and debits = credits |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Assets** | | **=** | **Liabilities** | | **+** | **Stockholders’ Equity** | | |  |  |  | Unearned Revenue | –1,000 |  | Service Revenue | +1,000 | |

By December 31, 2018, the remainder of Rangel’s membership expired. Prepare the required adjusting journal entry on that date.

|  |
| --- |
| Debit and credit the accounts affected |
| |  |  |  |  | | --- | --- | --- | --- | | Dec. 31 | Unearned Revenue | 1,000 |  | | 2018 | Service Revenue |  | 1,000 | |
| Ensure the equation still balances and debits = credits |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Assets** | | **=** | **Liabilities** | | **+** | **Stockholders’ Equity** | | |  |  |  | Unearned Revenue | –1,000 |  | Service Revenue | +1,000 | |

Post the entries above to the Unearned Revenue account:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| – Unearned Revenue (L) +   |  |  |  |  | | --- | --- | --- | --- | |  |  | 2,000 | 1/1/17 | | 12/31/17 | 1,000 |  |  | |  |  | 1,000 | End Bal | | 12/31/18 | 1,000 |  |  | |  |  | 0 | End Bal | |

# HANDOUT 10–4

# ISSUING BONDS

Consider the issuance of $800,000, 5-year, 8% payable annually (market rate 12%) for cash of $684,627 on January 1, 2016. Were these bonds issued at a discount or at a premium? Why?

Prepare the journal entry to record the issuance (sale) of the bonds:

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

Complete the following interest schedule (assuming straight-line amortization):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Cash  Payment of Interest | Interest Expense | Amortization of Discount | Carrying Value (Net Liability) |
| 1/1/2016 | None | None | None |  |
| 12/31/2016 |  |  |  |  |
| 12/31/2017 |  |  |  |  |
| 12/31/2018 |  |  |  |  |
| 12/31/2019 |  |  |  |  |
| 12/31/2020 |  |  |  |  |

Prepare the journal entry to record the first payment of interest on December 31, 2016:

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

Complete the following interest schedule (assuming effective-interest amortization):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Cash  Payment of Interest | Interest Expense | Amortization of Discount | Carrying Value (Net Liability) |
| 1/1/2016 | None | None | None |  |
| 12/31/2016 |  |  |  |  |
| 12/31/2017 |  |  |  |  |
| 12/31/2018 |  |  |  |  |
| 12/31/2019 |  |  |  |  |
| 12/31/2020 |  |  |  |  |

# HANDOUT 10–4 SOLUTION

# ISSUING BONDS

Consider the issuance of $800,000, 5-year, 8% payable annually (market rate 12%) for cash of $684,627 on January 1, 2016. Were these bonds issued at a discount or at a premium? Why?

The bonds were issued at a discount since the contract rate is less than the market rate.

Prepare the journal entry to record the issuance (sale) of the bonds:

|  |  |  |
| --- | --- | --- |
| Cash | 684,627 |  |
| Discount on Bonds Payable | 115,373 |  |
| Bonds Payable |  | 800,000 |

Complete the following interest schedule (assuming straight-line amortization):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Cash  Payment of Interest | Interest Expense | Amortization of Discount | Carrying Value (Net Liability) |
| 1/1/2016 | None | None | None | 684,627 |
| 12/31/2016 | 64,000 | 87,075 | 23,075 | 707,702 |
| 12/31/2017 | 64,000 | 87,075 | 23,075 | 730,776 |
| 12/31/2018 | 64,000 | 87,075 | 23,075 | 753,851 |
| 12/31/2019 | 64,000 | 87,075 | 23,075 | 776,925 |
| 12/31/2020 | 64,000 | 87,075 | 23,075 | 800,000 |

Prepare the journal entry to record the first payment of interest on December 31, 2016:

|  |  |  |
| --- | --- | --- |
| Interest Expense | 87,075 |  |
| Discount on Bonds Payable |  | 23,075 |
| Cash |  | 64,000 |

Complete the following interest schedule (assuming effective-interest amortization):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Cash  Payment of Interest | Interest Expense | Amortization of Discount | Carrying Value (Net Liability) |
| 1/1/2016 | None | None | None | 684,627 |
| 12/31/2016 | 64,000 | 82155 | 18155 | 702,782 |
| 12/31/2017 | 64,000 | 84334 | 20334 | 723,116 |
| 12/31/2018 | 64,000 | 86774 | 22774 | 745,890 |
| 12/31/2019 | 64,000 | 89507 | 25507 | 771,397 |
| 12/31/2020 | 64,000 | 92568 | 28568 | 799,965 |
|  |  |  |  | Difference due to rounding |

# HANDOUT 10–5

# ISSUING BONDS

Consider the issuance of $1,200,000, 5-year, 10% payable annually (market rate 8%) for cash of $1,295,844 on January 1, 2016. Were these bonds issued at a discount or at a premium? Why?

Prepare the journal entry to record the issuance (sale) of the bonds:

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

Complete the following interest schedule (assuming straight-line amortization):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Cash  Payment of Interest | Interest Expense | Amortization of Premium | Carrying Value (Net Liability) |
| 1/1/2016 | None | None | None |  |
| 12/31/2016 |  |  |  |  |
| 12/31/2017 |  |  |  |  |
| 12/31/2018 |  |  |  |  |
| 12/31/2019 |  |  |  |  |
| 12/31/2020 |  |  |  |  |

Prepare the journal entry to record the first payment of interest on December 31, 2016:

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

Complete the following interest schedule (assuming effective-interest amortization):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Cash  Payment of Interest | Interest Expense | Amortization of Premium | Carrying Value (Net Liability) |
| 1/1/2016 | None | None | None |  |
| 12/31/2016 |  |  |  |  |
| 12/31/2017 |  |  |  |  |
| 12/31/2018 |  |  |  |  |
| 12/31/2019 |  |  |  |  |
| 12/31/2020 |  |  |  |  |

# HANDOUT 10–5 SOLUTION

# ISSUING BONDS

Consider the issuance of $1,200,000, 5-year, 10% payable annually (market rate 8%) for cash of $1,295,844 on January 1, 2016. Were these bonds issued at a discount or at a premium? Why?

The bonds were issued at a premium since the contract rate is more than the market rate.

Prepare the journal entry to record the issuance (sale) of the bonds:

|  |  |  |
| --- | --- | --- |
| Cash | 1,295,844 |  |
| Premium on Bonds Payable |  | 95,844 |
| Bonds Payable |  | 1,200,000 |

Complete the following interest schedule (assuming straight-line amortization):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Cash  Payment of Interest | Interest Expense | Amortization of Premium | Carrying Value (Net Liability) |
| 1/1/2016 | None | None | None | 1,295,844 |
| 12/31/2016 | 120,000 | 100,831 | 19,169 | 1,276,675 |
| 12/31/2017 | 120,000 | 100,831 | 19,169 | 1,257,506 |
| 12/31/2018 | 120,000 | 100,831 | 19,169 | 1,238,338 |
| 12/31/2019 | 120,000 | 100,831 | 19,169 | 1,219,169 |
| 12/31/2020 | 120,000 | 100,831 | 19,169 | 1,200,000 |

Prepare the journal entry to record the first payment of interest on December 31, 2016:

|  |  |  |
| --- | --- | --- |
| Interest Expense | 100,831 |  |
| Premium on Bonds Payable | 19,169 |  |
| Cash |  | 120,000 |

Complete the following interest schedule (assuming effective-interest amortization):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Cash  Payment of Interest | Interest Expense | Amortization of Premium | Carrying Value (Net Liability) |
| 1/1/2016 | None | None | None | 1,295,844 |
| 12/31/2016 | 120,000 | 103,668 | 16,332 | 1,279,512 |
| 12/31/2017 | 120,000 | 102,361 | 17,639 | 1,261,872 |
| 12/31/2018 | 120,000 | 100,950 | 19,050 | 1,242,822 |
| 12/31/2019 | 120,000 | 99,426 | 20,574 | 1,222,248 |
| 12/31/2020 | 120,000 | 97,780 | 22,220 | 1,200,028 |
|  |  |  |  | Difference due to rounding |