HORNGREN’S
Accounting
ELEVENTH EDITION

Tracie Miller-Nobles
Austin Community College

Brenda Mattison
Tri-County Technical College

Ella Mae Matsumura
University of Wisconsin-Madison

PEARSON
Boston Columbus Indianapolis New York San Francisco Hoboken
Amsterdam Cape Town Dubai London Madrid Milan Munich Paris Montréal Toronto
Delhi Mexico City São Paulo Sydney Hong Kong Seoul Singapore Taipei Tokyo
About the Authors

Tracie L. Miller-Nobles, CPA, received her bachelor's and master's degrees in accounting from Texas A&M University and is currently pursuing her Ph.D. in adult learning also at Texas A&M University. She is an Associate Professor at Austin Community College, Austin, TX. Previously she served as a Senior Lecturer at Texas State University, San Marcos, TX, and has served as department chair of the Accounting, Business, Computer Information Systems, and Marketing/Management department at Aims Community College, Greeley, CO. In addition, Tracie has taught as an adjunct professor at University of Texas and has public accounting experience with Deloitte Tax LLP and Sample & Bailey, CPAs.

Tracie is a recipient of the Texas Society of CPAs Rising Star Award, TSCPAs Outstanding Accounting Educator Award, NISOD Teaching Excellence Award and the Aims Community College Excellence in Teaching Award. She is a member of the Teachers of Accounting at Two Year Colleges, the American Accounting Association, the American Institute of Certified Public Accountants, and the Texas State Society of Certified Public Accountants. She is currently serving on the Board of Directors as secretary/webmaster of Teachers of Accounting at Two Year Colleges, as a member of the American Institute of Certified Public Accountants nominations committee, and as chair of the Texas Society of CPAs Relations with Education Institutions committee. In addition, Tracie served on the Commission on Accounting Higher Education: Pathways to a Profession.

Tracie has spoken on such topics as using technology in the classroom, motivating non-business majors to learn accounting, and incorporating active learning in the classroom at numerous conferences. In her spare time she enjoys spending time with her friends and family and camping, kayaking, and quilting.

Brenda L. Mattison has a bachelor's degree in education and a master's degree in accounting, both from Clemson University. She is currently an Accounting Instructor at Tri-County Technical College in Pendleton, South Carolina. Brenda previously served as Accounting Program Coordinator at TCTC and has prior experience teaching accounting at Robeson Community College, Lumberton, North Carolina; University of South Carolina Upstate, Spartanburg, South Carolina; and Rasmussen Business College, Eagan, Minnesota. She also has accounting work experience in retail and manufacturing businesses.

Brenda is a member of Teachers of Accounting at Two Year Colleges and the American Accounting Association. She is currently serving on the board of directors as Vice President of Conference Administration of Teachers of Accounting at Two Year Colleges.

Brenda previously served as Faculty Fellow at Tri-County Technical College. She has presented at several conferences on topics including active learning, course development, and student engagement.

In her spare time, Brenda enjoys reading and spending time with her family. She is also an active volunteer in the community, serving her church and other organizations.

Ella Mae Matsumura, Ph.D., is a professor in the Department of Accounting and Information Systems in the School of Business at the University of Wisconsin–Madison, and is affiliated with the university’s Center for Quick Response Manufacturing. She received an A.B. in mathematics from the University of California, Berkeley, and M.Sc. and Ph.D. degrees from the University of British Columbia. Ella Mae has won two teaching excellence awards at the University of Wisconsin–Madison and was elected as a lifetime fellow of the university’s Teaching Academy, formed to promote effective teaching. She is a member of the university team awarded an IBM Total Quality Management Partnership grant to develop curriculum for total quality management education.

Ella Mae was a co-winner of the 2010 Notable Contributions to Management Accounting Literature Award. She has served in numerous leadership positions in the American Accounting Association (AAA). She was coeditor of Accounting Horizons and has chaired and served on numerous AAA committees. She has been secretary-treasurer and president of the AAA’s Management Accounting Section. Her past and current research articles focus on decision making, performance evaluation, compensation, supply chain relationships, and sustainability. She coauthored a monograph on customer profitability analysis in credit unions.
Brief Contents

CHAPTER 1 Accounting and the Business Environment 1
CHAPTER 2 Recording Business Transactions 53
CHAPTER 3 The Adjusting Process 115
CHAPTER 4 Completing the Accounting Cycle 181
CHAPTER 5 Merchandising Operations 244
CHAPTER 6 Merchandise Inventory 322
CHAPTER 7 Accounting Information Systems 372
CHAPTER 8 Internal Control and Cash 430
CHAPTER 9 Receivables 479
CHAPTER 10 Plant Assets, Natural Resources, and Intangibles 530
CHAPTER 11 Current Liabilities and Payroll 579
CHAPTER 12 Partnerships 620
CHAPTER 13 Corporations 673
CHAPTER 14 Long-Term Liabilities 728
CHAPTER 15 Investments 777
CHAPTER 16 The Statement of Cash Flows 809
CHAPTER 17 Financial Statement Analysis 874
CHAPTER 18 Introduction to Managerial Accounting 937
CHAPTER 19 Job Order Costing 981
CHAPTER 20 Process Costing 1033
CHAPTER 21 Cost-Volume-Profit Analysis 1099
CHAPTER 22 Master Budgets 1168
CHAPTER 23 Flexible Budgets and Standard Cost Systems 1253
CHAPTER 24 Cost Allocation and Responsibility Accounting 1311
CHAPTER 25 Short-Term Business Decisions 1377
CHAPTER 26 Capital Investment Decisions 1431

APPENDIX B—Present Value Tables B-1
GLOSSARY G-1
INDEX I-1
PHOTO CREDITS P-1
Contents

CHAPTER 1  Accounting and the Business Environment  1

Why Is Accounting Important?  2
Decision Makers: The Users of Accounting Information  3
The Accounting Profession  4

What Are the Organizations and Rules That Govern Accounting?  6
Governing Organizations  6
Generally Accepted Accounting Principles  6
The Economic Entity Assumption  6
The Cost Principle  7
The Going Concern Assumption  7
The Monetary Unit Assumption  7
International Financial Reporting Standards  8
Ethics in Accounting and Business  8

What Is the Accounting Equation?  9
Assets 10
Liabilities 10
Equity 10

How Do You Analyze a Transaction?  11
Transaction Analysis for Smart Touch Learning  11

How Do You Prepare Financial Statements?  17
Income Statement 17
Statement of Owner's Equity 18
Balance Sheet 19
Statement of Cash Flows 20

How Do You Use Financial Statements to Evaluate Business Performance?  22
Green Mountain Coffee Roasters, Inc.  22
Return on Assets (ROA)  22

■ Review  24
■ Assess Your Progress 29
■ Critical Thinking 51

CHAPTER 2  Recording Business Transactions  53

What Is an Account?  54
Assets 54
Liabilities 54
Equity 56
Chart of Accounts 56
Ledger 57

What Is Double-Entry Accounting?  58
The T-Account 58
Increases and Decreases in the Accounts 58
Expanding the Rules of Debit and Credit  59
The Normal Balance of an Account  59
Determining the Balance of a T-Account  60

How Do You Record Transactions?  61
Source Documents—The Origin of the Transactions 61
Journalizing and Posting Transactions  62
The Ledger Accounts After Posting  73
The Four-Column Account: An Alternative to the T-Account 75

CHAPTER 3  The Adjusting Process  115

What Is the Difference Between Cash Basis Accounting and Accrual Basis Accounting?  116
What Concepts and Principles Apply to Accrual Basis Accounting?  118
The Time Period Concept 118
The Revenue Recognition Principle 118
The Matching Principle 119

What Are Adjusting Entries, and How Do We Record Them?  120
Deferred Expenses 121
Deferred Revenues 127
Accrued Expenses 128
Accrued Revenues 131

What Is the Purpose of the Adjusted Trial Balance, and How Do We Prepare It?  136

How Could a Worksheet Help in Preparing Adjusting Entries and the Adjusted Trial Balance?  139
APPENDIX 3A: Alternative Treatment of Recording Deferred Expenses and Deferred Revenues 141

What Is an Alternative Treatment of Recording Deferred Expenses and Deferred Revenues?  141
Deferred Expenses 141
Deferred Revenues 143

■ Review  144
■ Assess Your Progress 152
■ Critical Thinking 178

CHAPTER 4  Completing the Accounting Cycle  181

How Do We Prepare Financial Statements?  182
Relationships Among the Financial Statements 183

How Could a Worksheet Help in Preparing Financial Statements?  187
Section 5—Income Statement  187
Section 6—Balance Sheet  187
Section 7—Determine Net Income or Net Loss  187

What Is the Closing Process, and How Do We Close the Accounts?  189
Closing Temporary Accounts—Net Income for the Period  191
Closing Temporary Accounts—Net Loss for the Period  193
How Do We Prepare a Post-Closing Trial Balance?  195
What Is the Accounting Cycle?  197
How Do We Use the Current Ratio to Evaluate Business Performance?  198

APPENDIX 4A: Reversing Entries: An Optional Step  200

■ Review  204
■ Assess Your Progress  212
■ Comprehensive Problem 1 for Chapters 1–4  239
■ Comprehensive Problem 2 for Chapters 1–4  240
■ Critical Thinking  241

CHAPTER 5
Merchandising Operations  244

What Are Merchandising Operations?  245
The Operating Cycle of a Merchandising Business  245
Merchandise Inventory Systems: Perpetual and Periodic Inventory Systems  247

How Are Purchases of Merchandise Inventory Recorded in a Perpetual Inventory System?  248
Purchase of Merchandise Inventory  249
Purchase Discounts  250
Purchase Returns and Allowances  251
Transportation Costs  252
Cost of Inventory Purchased  254

How Are Sales of Merchandise Inventory Recorded in a Perpetual Inventory System?  255
Sale of Merchandise Inventory  255
Sales Discounts  257
Sales Returns and Allowances  257
Transportation Costs—Freight Out  259
Net Sales Revenue and Gross Profit  259

What Are the Adjusting and Closing Entries for a Merchandiser?  260
Adjusting Merchandise Inventory Based on a Physical Count  260
Worksheet for a Merchandising Business—Perpetual Inventory System  263

How Are a Merchandiser’s Financial Statements Prepared?  264
Income Statement  264
Statement of Owner’s Equity and the Balance Sheet  267

How Do We Use the Gross Profit Percentage to Evaluate Business Performance?  267

APPENDIX 5A: Accounting for Merchandise Inventory in a Periodic Inventory System  269

How Are Merchandise Inventory Transactions Recorded in a Periodic Inventory System?  269
Purchases of Merchandise Inventory  269
Sale of Merchandise Inventory  271
Adjusting and Closing Entries  271
Preparing Financial Statements  274

APPENDIX 5A: Accounting for Merchandise Inventory in a Periodic Inventory System  269

How Are Merchandise Inventory Transactions Recorded in a Periodic Inventory System?  269
Purchases of Merchandise Inventory  269
Sale of Merchandise Inventory  271
Adjusting and Closing Entries  271
Preparing Financial Statements  274

APPENDIX 5A: Accounting for Merchandise Inventory in a Periodic Inventory System  269

How Are Merchandise Inventory Transactions Recorded in a Periodic Inventory System?  269
Purchases of Merchandise Inventory  269
Sale of Merchandise Inventory  271
Adjusting and Closing Entries  271
Preparing Financial Statements  274

How Are Sales and Cash Receipts Recorded In a Manual Accounting Information System?  376
Special Journals  376
Subsidiary Ledgers  377
The Sales Journal  378
The Cash Receipts Journal  381
How Are Purchases, Cash Payments, And Other Transactions Recorded In a Manual Accounting Information System?  
The Purchases Journal  385
The Cash Payments Journal  387
The General Journal  390

How Are Transactions Recorded In a Computerized Accounting Information System?  392
Entry-Level Software  392
Enterprise Resource Planning (ERP) Systems  392
QuickBooks  393

Review  397
Assess Your Progress  402
Comprehensive Problems for Chapter 7  425
Critical Thinking  427

CHAPTER 8
Internal Control and Cash  430
What Is Internal Control, and How Can It Be Used to Protect a Company's Assets?  431
Internal Control and the Sarbanes-Oxley Act  431
The Components of Internal Control  432
Internal Control Procedures  433
The Limitations of Internal Control—Costs and Benefits  435

What Are the Internal Control Procedures With Respect to Cash Receipts?  436
Cash Receipts Over the Counter  436
Cash Receipts by Mail  437

What Are the Internal Control Procedures With Respect to Cash Payments?  438
Controls Over Payment by Check  438

How Can a Petty Cash Fund Be Used for Internal Control Purposes?  440
Setting Up the Petty Cash Fund  441
Replenishing the Petty Cash Fund  441
Changing the Amount of the Petty Cash Fund  443

How Can the Bank Account Be Used as a Control Device?  443
Signature Card  444
Deposit Ticket  444
Check  444
Bank Statement  445
Electronic Funds Transfers  445
Bank Reconciliation  446
Examining a Bank Reconciliation  449
Journalizing Transactions from the Bank Reconciliation  450

How Can the Cash Ratio Be Used to Evaluate Business Performance?  451
Review  452
Assess Your Progress  460
Critical Thinking  477

CHAPTER 9
Receivables  479
What Are Common Types of Receivables, and How Are Credit Sales Recorded?  480
Types of Receivables  480

Exercising Internal Control Over Receivables  481
Recording Sales on Credit  481
Recording Credit Card and Debit Card Sales  482
Factoring and Pledging Receivables  484

How Are Uncollectibles Accounted for When Using the Direct Write-Off Method?  485
Recording and Writing Off Uncollectible Accounts—Direct Write-Off Method  485
Recovery of Accounts Previously Written Off—Direct Write-Off Method  485
Limitations of the Direct Write-Off Method  486

How Are Uncollectibles Accounted for When Using the Allowance Method?  487
Recording Bad Debts Expense—Allowance Method  487
Writing Off Uncollectible Accounts—Allowance Method  488
Recovery of Accounts Previously Written Off—Allowance Method  489
Comparison of Accounting for Uncollectibles  494

How Are Notes Receivable Accounted For?  496
Identifying Maturity Date  497
Computing Interest on a Note  498
Accruing Interest Revenue and Recording Honored Notes Receivable  498
Recording Dishonored Notes Receivable  500

How Do We Use the Acid-Test Ratio, Accounts Receivable Turnover Ratio, and Days' Sales in Receivables to Evaluate Business Performance?  501
Acid-Test (or Quick) Ratio  502
Accounts Receivable Turnover Ratio  502
Days’ Sales in Receivables  503

Review  504
Assess Your Progress  510
Critical Thinking  528

CHAPTER 10
Plant Assets, Natural Resources, and Intangibles  530
How Does a Business Measure the Cost of a Plant Asset?  531
Land and Land Improvements  532
Buildings  533
Machinery and Equipment  533
Furniture and Fixtures  533
Lump-Sum Purchases  534
Capital and Revenue Expenditures  535

What Is Depreciation, and How Is It Computed?  536
Factors in Computing Depreciation  537
Depreciation Methods  537
Partial-Year Depreciation  543
Changing Estimates of Depreciable Asset  544
Reporting Plant Assets  545

How Are Disposals of Plant Assets Recorded?  546
Discarding Plant Assets  546
Selling Plant Assets  548

How Are Natural Resources Accounted For?  552
How Are Intangible Assets Accounted For?  553
Accounting for Intangibles  553
Specific Intangibles  553
Reporting of Intangible Assets  556
How Do We Use the Asset Turnover Ratio to Evaluate Business Performance? 557

APPENDIX 10A: Exchanging Plant Assets 558

How Are Exchanges of Plant Assets Accounted For? 558
Exchange of Plant Assets—Gain Situation 558
Exchange of Plant Assets—Loss Situation 559

CHAPTER 11
Current Liabilities and Payroll 579

How Are Current Liabilities of Known Amounts Accounted For? 580
Accounts Payable 580
Sales Tax Payable 581
Unearned Revenues 581
Short-Term Notes Payable 582
Current Portion of Long-Term Notes Payable 583

How Do Companies Account for and Record Payroll? 584
Gross Pay and Net (Take-Home) Pay 585
Employee Payroll Withholding Deductions 585
Payroll Register 588
Journalizing Employee Payroll 589
Employer Payroll Taxes 589
Internal Control Over Payroll 591

How Are Current Liabilities That Must Be Estimated Accounted For? 592
Bonus Plans 592
Vacation, Health, and Pension Benefits 593
Warranties 593

How Are Contingent Liabilities Accounted For? 595
Remote Contingent Liability 595
Reasonably Possible Contingent Liability 595
Probable Contingent Liability 595

How Do We Use the Times-Interest-Earned Ratio to Evaluate Business Performance? 597

CHAPTER 12
Partnerships 620

What are the Characteristics and Types of Partnerships? 621
Partnership Characteristics 621
Types of Partnerships 623
Other Forms of Business 624

How are Partnerships Organized? 625
The Start-up of a Partnership 626
Partnership Financial Statements 626

How are Partnerships Profits and Losses Allocated? 627
Allocation Based on a Stated Ratio 628
Allocation Based on Capital Balances 629
Allocation Based on Services, Capital Balances, and Stated Ratios 629

Partner Withdrawal of Cash and Other Assets 632
Statement of Partners’ Equity 633

How is the Admission of a Partner Accounted For? 634
Admission by Purchasing an Existing Partner’s Interest 634
Admission by Contributing to the Partnership 635

How is the Withdrawal of a Partner Accounted For? 638

How is the Liquidation of a Partnership Accounted For? 640
Sale of Assets at a Gain 640
Sale of Assets at a Loss with Capital Deficiency 643

CHAPTER 13
Corporations 673

What Is a Corporation? 674
Characteristics of Corporations 674
Stockholders’ Equity Basics 675

How is the Issuance of Stock Accounted For? 678
Issuing Common Stock at Par Value 678
Issuing Common Stock at a Premium 678
Issuing No-Par Common Stock 679
Issuing Stated Value Common Stock 680
Issuing Common Stock for Assets Other Than Cash 681
Issuing Preferred Stock 682

How is Treasury Stock Accounted For? 683
Treasury Stock Basics 683
Purchase of Treasury Stock 683
Sale of Treasury Stock 683
Retirement of Stock 686

How Are Dividends and Stock Splits Accounted For? 687
Cash Dividends 687
Stock Dividends 690
Stock Splits 694
Cash Dividends, Stock Dividends, and Stock Splits Compared 694

How Are Net Income and Equity Reported For a Corporation? 695
Income Statement 695
Statement of Retained Earnings 696
Statement of Stockholders’ Equity 698

How Do We Use Stockholders’ Equity Ratios to Evaluate Business Performance? 699
Earnings per Share 699
Price/Earnings Ratio 700
Rate of Return on Common Stock 700

CHAPTER 14
Long-Term Liabilities 728

How Are Long-Term Notes Payable and Mortgages Payable Accounted For? 729
Long-Term Notes Payable 729
Mortgages Payable 730
What Are Bonds?  732
  Types of Bonds  734
  Bond Prices  734
  Present Value  735
  Bond Interest Rates  735
  Issuing Bonds Versus Issuing Stock  736

How Are Bonds Payable Accounted for Using the Straight-Line Amortization Method?  737
  Issuing Bonds Payable at Face Value  738
  Issuing Bonds Payable at a Discount  738
  Issuing Bonds Payable at a Premium  741

How Is the Retirement of Bonds Payable Accounted For?  743
  Retirement of Bonds at Maturity  743
  Retirement of Bonds Before Maturity  744

How Are Liabilities Reported on the Balance Sheet?  746

How Do We Use the Debt to Equity Ratio to Evaluate Business Performance?  747

APPENDIX 14A: The Time Value of Money  748

What Is the Time Value of Money, and How Is the Present Value of a Future Amount Calculated?  748
  Time Value of Money Concepts  749
  Present Value of a Lump Sum  751
  Present Value of an Annuity  751
  Present Value of Bonds Payable  752

APPENDIX 14B: Effective-Interest Method of Amortization  754

How Are Bonds Payable Accounted for Using the Effective-Interest Amortization Method?  754
  Effective-Interest Amortization for a Bond Discount  754
  Effective-Interest Amortization of a Bond Premium  755

Review  757
Assess Your Progress  762
Critical Thinking  775

CHAPTER 15
Investments  777

Why Do Companies Invest?  778
  Debt Securities Versus Equity Securities  778
  Reasons to Invest  778
  Classification and Reporting of Investments  779

How Are Investments in Debt Securities Accounted For?  781
  Purchase of Debt Securities  781
  Interest Revenue  781
  Disposition at Maturity  781

How Are Investments in Equity Securities Accounted For?  782
  Equity Securities with Less Than 20% Ownership (Cost Method)  782
  Equity Securities with 20% to 50% Ownership (Equity Method)  783
  Equity Securities with More Than 50% Ownership (Consolidations)  786

How Are Debt and Equity Securities Reported?  786
  Trading Investments  786
  Available-for-Sale Investments  788
  Held-to-Maturity Investments  790

How Do We Use the Rate of Return on Total Assets to Evaluate Business Performance?  791

Review  792
Assess Your Progress  798
Critical Thinking  806

CHAPTER 16
The Statement of Cash Flows  809

What Is the Statement of Cash Flows?  810
  Purpose of the Statement of Cash Flows  810
  Classification of Cash Flows  811
  Two Formats for Operating Activities  813

  Cash Flows from Operating Activities  816
  Cash Flows from Investing Activities  820
  Cash Flows from Financing Activities  822
  Net Change in Cash and Cash Balances  825
  Non-cash Investing and Financing Activities  826

How Do We Use Free Cash Flow to Evaluate Business Performance?  828

APPENDIX 16A: Preparing the Statement of Cash Flows by the Direct Method  829

  Cash Flows from Operating Activities  829

APPENDIX 16B: Preparing the Indirect Statement of Cash Flows Using a Spreadsheet  835

How Is the Statement of Cash Flows Prepared Using the Indirect Method and a Spreadsheet?  835

Review  839
Assess Your Progress  845
Critical Thinking  872

CHAPTER 17
Financial Statement Analysis  874

How Are Financial Statements Used to Analyze a Business?  875
  Purpose of Analysis  875
  Tools of Analysis  875
  Corporate Financial Reports  875

How Do We Use Horizontal Analysis to Analyze a Business?  877
  Horizontal Analysis of the Income Statement  878
  Horizontal Analysis of the Balance Sheet  879
  Trend Analysis  880

How Do We Use Vertical Analysis to Analyze a Business?  881
  Vertical Analysis of the Income Statement  882
  Vertical Analysis of the Balance Sheet  882
  Common-Size Statements  884
  Benchmarking  885

How Do We Use Ratios to Analyze a Business?  886
  Evaluating the Ability to Pay Current Liabilities  887
  Evaluating the Ability to Sell Merchandise Inventory and Collect Receivables  889
  Evaluating the Ability to Pay Long-Term Debt  892
  Evaluating Profitability  894
Variable Overhead Variances 1271
Fixed Overhead Variances 1273

What Is the Relationship Among the Product Cost Variances, and Who Is Responsible for Them? 1276
Variance Relationships 1277
Variance Responsibilities 1278

How Do Journal Entries Differ in a Standard Cost System? 1279
Journal Entries 1279
Standard Cost Income Statement 1283

Chapter 24
Cost Allocation and Responsibility Accounting 1311

How Do Companies Assign and Allocate Costs 1312
Single Plantwide Rate 1313
Multiple Department Rates 1315
Activity-Based Costing 1316
Traditional Costing Systems Compared with ABC Systems 1321

Why Do Decentralized Companies Need Responsibility Accounting? 1322
Advantages of Decentralization 1322
Disadvantages of Decentralization 1323
Responsibility Accounting 1323

What Is a Performance Evaluation System, and How Is It Used? 1326
Goals of Performance Evaluation Systems 1326
Limitations of Financial Performance Measurement 1327
The Balanced Scorecard 1328

How Do Companies Use Responsibility Accounting to Evaluate Performance in Cost, Revenue, and Profit Centers? 1331
Controllable Versus Noncontrollable Costs 1331
Responsibility Reports 1332

How Does Performance Evaluation in Investment Centers Differ From Other Centers? 1336
Return on Investment (ROI) 1337
Residual Income (RI) 1340
Limitations of Financial Performance Measures 1341

APPENDIX 24A: Transfer Pricing 1343

How Do Transfer Prices Affect Decentralized Companies? 1343
Objectives in Setting Transfer Prices 1343
Setting Transfer Prices 1344

Review 1346
Assess Your Progress 1353
Comprehensive Problem for Chapters 22–24 1371
Critical Thinking 1375

Chapter 25
Short-Term Business Decisions 1377

How Is Relevant Information Used to Make Short-Term Decisions? 1378
Relevant Information 1378
Relevant Nonfinancial Information 1379
Differential Analysis 1379

How Does Pricing Affect Short-Term Decisions? 1381
Setting Regular Prices 1381
Special Pricing 1385

How Do Managers Decide Which Products to Produce and Sell? 1389
Dropping Unprofitable Products and Segments 1389
Product Mix 1393
Sales Mix 1396

How Do Managers Make Outsourcing and Processing Further Decisions? 1397
Outsourcing 1397
Sell or Process Further 1402

Review 1404
Assess Your Progress 1412
Critical Thinking 1429

Chapter 26
Capital Investment Decisions 1431

What Is Capital Budgeting? 1432
The Capital Budgeting Process 1432
Focus on Cash Flows 1434

How Do the Payback and Accounting Rate of Return Methods Work? 1436
Payback 1436
Accounting Rate of Return (ARR) 1439

What Is the Time Value of Money? 1443
Time Value of Money Concepts 1443
Present Value of a Lump Sum 1445
Present Value of an Annuity 1446
Summary 1446

How Do Discounted Cash Flow Methods Work? 1448
Net Present Value (NPV) 1449
Internal Rate of Return (IRR) 1454
Comparing Capital Investment Analysis Methods 1457
Sensitivity Analysis 1457
Capital Rationing 1461

Review 1462
Assess Your Progress 1469
Comprehensive Problem for Chapters 25–26 1482
Critical Thinking 1484

APPENDIX B—Present Value Tables B-1
GLOSSARY G-1
INDEX I-1
PHOTO CREDITS P-1
Changes to This Edition

**General**
Revised end-of-chapter short exercises, exercises, problems, continuing problems, comprehensive problems, and critical thinking cases.
NEW! Added three comprehensive problems in managerial chapters.

**Chapter 1**
NEW! Added discussion of the Pathways Commission and incorporated the Pathways' Vision Model.
Clarified and simplified the financial statement presentation.

**Chapter 3**
NEW! Added discussion of the new revenue recognition principle.
Replaced the word *prepaids* with *deferrals* to better align with the presentation of the other types of adjusting entries.

**Chapter 4**
Increased the usage of the classified balance sheet as a requirement for end-of-chapter problems.

**Chapter 10**
Expanded the discussion on partial-year depreciation.

**Chapter 11**
Updated the payroll section for consistency with current payroll laws at the time of printing.

**Chapter 13**
Moved coverage of treasury stock before dividends to increase students' understanding of dividend transactions.
NEW! Added section on income tax expense and updated income statement presentation.

**Chapter 18**
NEW! Added discussion of the Pathways Commission and incorporated the Pathways' Vision Model.
NEW! Included triple bottom line in Today's Business Environment section.
Expanded the cost flows exhibit to include T-accounts for manufacturing inventory accounts.

**Chapter 19**
Modified the exhibit on summary journal entries to include T-accounts for manufacturing inventory accounts and COGS.

**Chapter 21**
Clarified the explanation of the differences between target pricing and cost-based pricing.
NEW! Added comprehensive problem for Chapters 18–21.

**Chapter 24**
NEW! Added comprehensive problem for Chapters 22–24.

**Chapter 26**

http://www.pearsonhighered.com/Horngren
New to the Enhanced eText

The Enhanced eText keeps students engaged in learning on their own time, while helping them achieve greater conceptual understanding of course material. The worked examples bring learning to life, and algorithmic practice allows students to apply the very concepts they are reading about. Combining resources that illuminate content with accessible self-assessment, MyAccountingLab with Enhanced eText provides students with a complete digital learning experience—all in one place.

NEW!

Accounting Cycle Tutorial—MyAccountingLab’s new interactive tutorial helps students master the Accounting Cycle for early and continued success in the introduction to Accounting course. The tutorial, accessed by computer, Smartphone, or tablet, provides students with brief explanations of each concept of the Accounting Cycle through engaging videos and/or animations. Students are immediately assessed on their understanding and their performance is recorded in the MyAccountingLab grade book. Whether the Accounting Cycle Tutorial is used as a remediation self-study tool or course assignment, students have yet another resource within MyAccountingLab to help them be successful with the accounting cycle.

NEW!

Try It! Solution Videos—Author recorded solution videos accompany Try Its! Just click on the Try It! box and watch the author will walk students through the problem and the solution.
Learning Catalytics—A “bring your own device” assessment and classroom activity system that expands the possibilities for student engagement. Using Learning Catalytics, you can deliver a wide range of auto-gradable or open-ended questions that test content knowledge and build critical thinking skills. Eighteen different answer types provide great flexibility, including graphical, numerical, textual input, and more.

Animated Lectures—These pre-class learning aids are available for every learning objective and are professor-narrated PowerPoint summaries that will help students prepare for class. These can be used in an online or flipped classroom experience or simply to get students ready for lecture.
End-of-Chapter Continuing and Comprehensive Problems

> Continuing Problem

Problem P1-54 is the first problem in a sequence that begins an accounting cycle. The cycle is continued in Chapter 2 and completed in Chapter 5.

P1-54 Using the accounting equation for transaction analysis, preparing financial statements, and calculating return on assets (ROA)

Danielle Cosmetics began operations and completed the following transactions during December 2016.

<table>
<thead>
<tr>
<th>Date</th>
<th>Transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec. 2</td>
<td>Contributed $20,000 cash in exchange for capital.</td>
</tr>
<tr>
<td>3</td>
<td>Paid cash for a computer, $3,500; this equipment is expected to remain in service for five years.</td>
</tr>
<tr>
<td>4</td>
<td>Purchased office furniture on account, $3,000; the furniture should last for five years.</td>
</tr>
<tr>
<td>5</td>
<td>Purchased office supplies on account, $800.</td>
</tr>
<tr>
<td>9</td>
<td>Performed consulting service for a client on account, $2,500.</td>
</tr>
<tr>
<td>12</td>
<td>Paid utilities expenses, $120.</td>
</tr>
<tr>
<td>18</td>
<td>Performed service for a client and received cash of $2,100.</td>
</tr>
<tr>
<td>21</td>
<td>Received $2,000 in advance for consulting services to be performed in the future. (This increases the Unearned Revenue account, which is a liability. This account will be explained in more detail in Chapter 2.)</td>
</tr>
<tr>
<td>21</td>
<td>Hired an administrative assistant to be paid $2,015 on the 20th day of each month. The salary begins work immediately.</td>
</tr>
</tbody>
</table>

Continuing Problem—Starts in Chapter 1 and runs through the entire book exposing students to recording entries for a service company and then moving into recording transactions for a merchandiser later in the text. The managerial chapters emphasize the relevant topics for that chapter using a continuous company.

Practice Set—Starts in Chapter 2 and goes through the financial chapters and provides another opportunity for students to practice the entire accounting cycle. The practice set uses the same company in each chapter but is often not as extensive as the continuing problem.

Comprehensive Problem 1 for Chapters 1–4—Covers the entire accounting cycle for a service company.

Comprehensive Problem 2 for Chapters 1–4—A continuation of Comprehensive Problem 1. It requires the student to record transactions for the month after the closing process.

Comprehensive Problem for Chapters 1–5—Covers the entire accounting cycle for a merchandise company.

Comprehensive Problem for Chapter 7—Uses special journals and subsidiary ledgers and covers the entire accounting cycle for a merchandise company. Students can complete this comprehensive problem using the MyAccountingLab General Ledger or Quickbooks™ software.

Comprehensive Problem for Chapter 17—Students use trend analysis and ratios to analyze a company for its investment potential.


> NEW! Comprehensive Problem for Chapters 22–24—Covers planning and control decisions for a manufacturing company, including a master budget, flexible budget, variance analysis, and performance evaluation.

> NEW! Comprehensive Problem for Chapters 25–26—Covers decision making, both short-term business decisions and capital budgeting decisions.

Comprehensive Problem for Chapters 18–21—The Savannah Shirt Company makes two types of T-shirts: basic and custom. Basic shirts are plain shirts without any screen printing on them. Custom shirts are created using the basic shirts and then adding a custom screen printing design.

The company buys cloth in various colors and then makes the basic shirts in two departments, Cutting and Sewing. The company uses a process costing system (weighted-average method) to determine the production cost of the basic shirts. In the Cutting Department, direct materials (cloth) are added at the beginning of the process and conversion costs are added evenly throughout the process. In the Sewing Department, no direct materials are added. The only additional material, thread, is considered an indirect material because it cannot be easily traced to the finished product. Conversion costs are added evenly throughout the process in the Sewing Department. The finished basic shirts are sold to retail stores or are sent to the Custom Design Department for custom screen printing.

The Custom Design Department creates custom shirts by adding screen printing to the basic shirt. The department creates a design based on the customer's request and then prints the design using up to four colors. Because these shirts have the custom printing added, which is unique for each order, the additional cost incurred is determined using job order costing, with each custom order considered a separate job.
Chapter Openers
Chapter openers set up the concepts to be covered in the chapter using stories students can relate to. The implications of those concepts on a company's reporting and decision making processes are then discussed.

Effect on the Accounting Equation
Next to every journal entry, these illustrations help reinforce the connections between recording transactions and the effect those transactions have on the accounting equation.

On November 10, Smart Touch Learning performed services for clients, for which the clients will pay the company later. The business earned $3,000 of service revenue on account. This transaction increased Accounts Receivable, so we debit this asset. Service Revenue is increased with a credit.

Instructor Tips & Tricks
Found throughout the text, these handwritten notes mimic the experience of having an experienced teacher walk a student through concepts on the “board.” Many include mnemonic devices or examples to help students remember the rules of accounting.
Notice that Smart Touch Learning credited the amortization directly to the intangible asset, Patent, instead of using an Accumulated Amortization account. A company may credit an intangible asset directly when recording amortization expense, or it may use the account Accumulated Amortization. Companies frequently choose to credit the asset account directly because the residual value is generally zero and there is no physical asset to dispose of at the end of its useful life, so the asset essentially removes itself from the books through the process of amortization.

At the end of the first year, Smart Touch Learning will report this patent at $160,000 ($200,000 cost minus first-year amortization of $40,000), the next year at $120,000, and so forth. Each year for five years the value of the patent will be reduced until the end of its five-year life, at which point its book value will be $0.

Why was the account Patent credited instead of Accumulated Amortization—Patent?

Try It! Boxes

Found after each learning objective, Try Its! give students the opportunity to apply the concept they just learned to an accounting problem. Deep linking in the eText will allow students to practice in MyAccountingLab without interrupting their interaction with the eText.

Try It!

Total Pool Services earned $130,000 of service revenue during 2016. Of the $130,000 earned, the business received $105,000 in cash. The remaining amount, $25,000, was still owed by customers as of December 31. In addition, Total Pool Services incurred $85,000 of expenses during the year. As of December 31, $10,000 of the expenses still needed to be paid. In addition, Total Pool Services prepaid $5,000 cash in December 2016 for expenses incurred during the next year.

1. Determine the amount of service revenue and expenses for 2016 using a cash basis accounting system.
2. Determine the amount of service revenue and expenses for 2016 using an accrual basis accounting system.

Check your answers online in MyAccountingLab or at http://www.pearsonhighered.com/Horngren.

For more practice, see Short Exercises S3-1 and S3-2. MyAccountingLab

Redesigned

The redesign includes clean and consistent art for T-accounts, journal entries, financial statements, and the accounting equation. New art types include clear explanations and connection arrows to help students follow the transaction process.

IFRS

Information on IFRS provides guidance on how IFRS differs from U.S. GAAP throughout the financial chapters.
Decision Boxes
This feature provides common questions and potential solutions business owners face. Students are asked to determine the course of action they would take based on concepts covered in the chapter and are then given potential solutions.

Can we cut these costs?
The management team of Puzzle Me is looking at the production cost reports for July, and discussing opportunities for improvement. The production manager thinks the production process is very efficient, and there is little room for cost savings in conversion costs. The purchasing manager tells the team that he was recently approached by a supplier with an excellent reputation for quality. This supplier submitted a bid for cardboard that was a little thinner but would allow the company to decrease direct materials costs by 5%. What should the team do?

Solution
The production cost reports for the Assembly and Cutting Departments show direct materials costs of $2.80 and $0.50 per puzzle, for total direct materials cost of $3.30 per puzzle. A decrease of 5% in direct materials costs would result in a savings of $0.165 per puzzle ($3.30 \times 5\%) and decrease total costs from $5.30 to $5.135 per puzzle. Based on the completed production of 38,000 puzzles in July, the total cost savings would be $6,270 per month ($0.165 per puzzle \times 38,000 puzzles). The purchasing manager recommends using the new supplier.

Alternate Solution
The marketing manager has a different perspective. He points out that most of the puzzles produced are for toddlers. Based on market research, the adults who purchase these puzzles like the sturdy construction. If Puzzle Me changes materials and the puzzles do not stand up well to the treatment they receive by young children, the company could rapidly lose market share. The marketing manager does not recommend using a thinner cardboard.

Things You Should Know
Provides students with a brief review of each learning objective presented in a question and answer format.

> Things You Should Know
1. **How do we prepare financial statements?**
   - Financial statements are prepared from the adjusted trial balance in the following order:
     1. Income statement—reports revenues and expenses and calculates net income or net loss during the period
     2. Statement of owner’s equity—shows how capital changed during the period due to owner contributions, net income or net loss, and owner withdrawals
     3. Balance sheet—reports assets, liabilities, and owner’s equity as of the last day of the period
   - A classified balance sheet classifies each asset and each liability into specific categories.

2. **How could a worksheet help in preparing financial statements?**
   - The columns of a worksheet can be extended to help in preparing the financial statements.
   - The income statement section will include only revenue and expense accounts.
   - The balance sheet section will include asset and liability accounts and all equity accounts except revenues and expenses.
Dear Colleague,

Thank you for taking time, out of what we know is a busy schedule, to review the newest edition of *Horngren’s Accounting*. We are excited to share our innovations with you as we expand on the proven success of our significant revision to the Horngren franchise. Using what we have learned from focus groups, market feedback, and our colleagues, we’ve designed this edition to focus on several goals.

First, we made certain that our content was clear, consistent, and above all, accurate. As authors, we reviewed each chapter to ensure that students understand what they are reading and that there is consistency from chapter to chapter. In addition, our textbook goes through a multi-level accuracy check which includes the author team working every single accounting problem and having a team of accounting professors from across the nation review for accuracy. Next, through ongoing conversations with our colleagues and our time engaged at professional conferences, we confirmed that our pedagogy and content represents the leading methods used in the classroom and provides your students with the foundation they need to be successful in their future academic and professional careers. Lastly, we concentrated on student success and providing resources for professors to create an active and engaging classroom.

**Student success.** Using our experience as educators, our team carefully considered how students learn, what they learn, and where they struggle the most. We understand that sometimes there is a gap in students’ understanding between the textbook content and what is done in the classroom or in an online environment, so we have included in the textbook and enhanced eText several great learning aids for students. *Instructor Tips and Tricks and Common Questions Answered* address areas that are typically challenging for students. These aids provide handy memory tools or address common student misconceptions or confusion. We also realized that students use our enhanced eText to study on their own time and we have built in many new features to bring learning to life and to allow students to apply the concepts they are reading about outside of the classroom. Available through MyAccountingLab, students have the opportunity to watch author recorded solution videos, practice the accounting cycle using an interactive tutorial, and watch in-depth author-driven animated lectures that cover every learning objective.

**Professor expectations.** As professors, we know it’s critical to have excellent end-of-chapter material and instructor resources. With these expectations, all end-of-chapter problems have been revised and our author team, along with our trusted accuracy checkers, have checked every problem for accuracy and consistency. In addition to financial comprehensive problems, three NEW comprehensive problems have been added to the managerial content. These problems cover multiple chapters and encourage students to think reflectively about prior material learned and the connections between accounting concepts. We have also reviewed and updated ALL instructor resources to accompany this edition of the book. In addition, the PowerPoint presentations and Test Bank have had significant revisions based upon your feedback and needs.

**Expanding on the proven success** of our last edition, we believe that our enhancements to *Horngren’s Accounting*, along with MyAccountingLab, will help your students achieve success in accounting. We welcome your feedback, suggestions, and comments. Please don’t hesitate to contact us at HorngrensAccounting@pearson.com.

Tracie L. Miller-Nobles, CPA      Brenda Mattison      Ella Mae Matsumura, PhD
Instructor and Student Resources

Each supplement, including the resources in MyAccountingLab, has been reviewed by the author team to ensure accuracy and consistency with the text. Given their personal involvement, you can be assured of the high quality and accuracy of all supplements.

For Instructors

MyAccountingLab

Online Homework and Assessment Manager: http://www.myaccountinglab.com

Instructor Resource Center: http://www.pearsonhighered.com/Horngren

For the instructor's convenience, the instructor resources can be downloaded from the textbook's catalog page (http://www.pearsonhighered.com/Horngren) and MyAccountingLab. Available resources include the following:

Online Instructor's Resource Manual:

Course Content:

- Tips for Taking Your Course from Traditional to Hybrid, Blended, or Online
- Standard Syllabi for Financial Accounting (10-week & 16-week)
- Standard Syllabi for Managerial Accounting (10-week & 16-week)
- Sample Syllabi for 10- and 16-week courses
- “First Day of Class” student handouts include:
  - Student Walk-Through to Set-up MyAccountingLab
  - Tips on How to Get an A in This Class

Chapter Content:

- Chapter Overview
  - Contains a brief synopsis and overview of each chapter.
- Learning Objectives
- Teaching Outline with Lecture Notes
  - Revised to combine the Teaching Outline and the Lecture Outline Topics, so instructors only have one document to review.
  - Walks instructors through what material to cover and what examples to use when addressing certain items within the chapter.
- Handout for Student Notes
  - An outline to assist students in taking notes on the chapter.
- Student Chapter Summary
  - Aids students in their comprehension of the chapter.
- Assignment Grid
  - Indicates the corresponding Learning Objective for each exercise and problem.
- Answer Key to Chapter Quiz
- Ten-Minute Quiz
  - To quickly assess students’ understanding of the chapter material.
- Extra Critical Thinking Problems and Solutions
  - Critical Thinking Problems removed from this edition of the text were moved to the IRM so instructors can continue to use their favorite problems.
- NEW Guide to Classroom Engagement Questions
  - Author-created element will offer tips and tricks to instructors in order to help them use the Learning Catalytic questions in class.

Online Instructor’s Solutions Manual:

- Contains solutions to all end-of-chapter questions, short exercises, exercises, and problems.
- The Try It! Solutions, previously found at the end of each chapter, are now available for download with the ISM.
- All solutions were thoroughly reviewed by the author team and other professors.
Online Test Bank:
■ Includes more than 3,900 questions.
■ Both conceptual and computational problems are available in true/false, multiple choice, and open-ended formats.
■ Algorithmic test bank is available in MyAccountingLab.

PowerPoint Presentations:
Instructor PowerPoint Presentations:
■ Complete with lecture notes.
■ Mirrors the organization of the text and includes key exhibits.

Student PowerPoint Presentations:
■ Abridged versions of the Instructor PowerPoint Presentations.
■ Can be used as a study tool or note-taking tool for students.

Demonstration Problem PowerPoint Presentations:
■ Offers instructors the opportunity to review in class the exercises and problems from the chapter using different companies and numbers.

Clicker Response System (CRS) PowerPoint Presentations:
■ 10 multiple-choice questions to use with a Clicker Response System.

Image Library:
■ All image files from the text to assist instructors in modifying our supplied PowerPoint presentations or in creating their own PowerPoint presentations.

Working Papers and Solutions:
■ Available in Excel format.
■ Templates for students to use to complete exercises and problems in the text.

Data and Solutions Files:
■ Select end-of-chapter problems have been set up in different software applications, including QuickBooks and General Ledger.
■ Corresponding solution files are provided for QuickBooks.

For Students
MyAccountingLab

Online Homework and Assessment Manager: http://www.myaccountinglab.com
• Pearson Enhanced eText
• Data Files
• Animated Lectures
• Demo Docs
• Working Papers
• Student PowerPoint® Presentations
• Accounting Cycle Tutorial
• Flash Cards

Student Resource Web site: http://www.pearsonhighered.com/Horngren
The book's Web site contains the following:
• Data Files: Select end-of-chapter problems have been set up in QuickBooks software and the related files are available for download.
• Working Papers
• Try It! Solutions: The solutions to all in-chapter Try Its! are available for download.

http://www.pearsonhighered.com/Horngren

xxii
Acknowledgments

Acknowledgments for This Edition:
Tracie Miller–Nobles would like to thank her parents and sister: Kipp and Sylvia Miller and Michelle Miller. She would also like to express her gratitude to her many colleagues and friends who encourage and support her. In addition, she would like to thank Kevin Morris for always making her laugh and for being the best camping buddy she could ever ask for. Here’s to many more trails.

Brenda Mattison has always had the loving support of her family and wishes to express her gratitude to them, especially her husband, Grant Mattison, who has been a constant and stable influence and inspiration for more than 25 years. Her family’s faith in her, along with her faith in God, provided the solid foundation that allowed her to develop her gift of teaching and achieve her dreams while helping others to achieve theirs.

Ella Mae Matsumura thanks her family for their longstanding love and support in her endeavors: husband, Kam-Wah Tiui; son, David Tiui; sister and late parents, Linda, Lester, and Eda Matsumura. She would also like to express her appreciation to: the numerous colleagues and friends who have encouraged her and helped her grow as a scholar and person; the many students who have provided constructive feedback that has shaped her teaching; and her faith community for its enduring love and affirmation.

The authors would like to sincerely thank Lacey Vitetta, Roberta Sherman, Mary Kate Murray, Andrea Skaladrud, Alison Haskins, and Donna Battista for their unwavering support of this edition. They express their extreme pleasure in working with each of them and are appreciative of their guidance, patience, and belief in the success of this project.

Contributor:
Lori Hatchell, Aims Community College

Advisory Panels, Focus Group Participants, and Reviewers:
Samad Adams, Bristol Community College
Sharon Agee, Rollins College
Markus Ahrens, St. Louis Community College
Janice Akao, Butler County Community College
Anna Alexander, Caldwell Community College and Technical Institute
Sheila Ammons, Austin Community College
Sidney Askew, Borough of Manhattan Community College
Michael Barendse, Grossmont College
Vikki Bentz, Yavapai College
Jennifer Cainas, University of South Florida
Anne Cardozo, Broward College
Elizabeth Carlson, University of South Florida Sarasota-Manatee
Martha Cavalaris, Miami Dade College
Donna Chadwick, Sinclair Community College
Colleen Chung, Miami Dade College
Tom Clement, University of North Dakota
Geoffrey Danzig, Miami Dade College—North
Judy Daulton, Piedmont Technical College
Michelle Davidowitz, Kingsborough Community College
Annette Fisher Davis, Glendale Community College
Anthony Dellarte, Luzerne County Community College
Crystal Drum, Guilford Technical Community College
Mary Ewanechko, Monroe Community College
Elisa Fernandez, Miami Dade College
Lori Grady, Bucks County Community College
Marina Grau, Houston Community College
Gloria Grayless, Sam Houston State University
Dawn D. Hart, Darton State College
Lori Hatchell, Aims Community College
Shauna Hatfield, Salt Lake Community College
Patricia Holmes, Des Moines Area Community College
Cynthia Johnson, University of Arkansas, Little Rock
Jeffrey Jones, The College of Southern Nevada
Thomas K. Y. Kam, Hawaii Pacific University
Anne Kenner, Brevard Community College
Stephanie (Sam) King, Edison State College
Paul Koulakov, Nashville State Community College
Chryst Land, Catawba Valley Community College
Wayne Lewis, Hudson Valley Community College
Mabel Machin, Valencia College
Mostafa Maksy, Kutztown University
Richard Mandau, Piedmont Technical College
Maria C. Mari, Miami Dade College
Cynthia J. Miller, University of Kentucky
Joanne Orabone, Community College of Rhode Island
Kimberly Perkins, Austin Community College
William Quilliam, Florida Southern College
Marcella Raphael, Chippewa Valley Technical College
Ryan Rees, Salt Lake Community College
Cecile Robert, Community College of Rhode Island
Shani Nicole Robinson, Sam Houston State University
Carol Rowey, Community College of Rhode Island
Amanda J. Salinas, Palo Alto College
Dennis Shea, *Southern New Hampshire University*
Jaye Simpson, *Tarrant County*
John Stancil, *Florida Southern*
Diana Sullivan, *Portland Community College*
Annette Taggart, *Texas A&M University–Commerce*
Linda Tarrago, *Hillsborough Community College*
Teresa Thompson, *Chaffey College*
Judy Toland, *Bucks County Community College*

Robin D. Turner, *Rowan-Cabarrus Community College*
William Van Glabek, *Edison State College*
Stanley Walker, *Georgia Northwestern Tech*
Deb Weber, *Hawkeye Community College*
Denise A. White, *Austin Community College*
Donald R. Wilke, *Northwest Florida State College*
Wanda Wong, *Chabot College*
Judy Zander, *Grossmont College*

**Accuracy Checkers:**

James L. Baker, *Harford Community College*
Nancy Emerson, *North Dakota State University*
Richard Mandau, *Piedmont Technical College*

Carolyn Streuly
Carol Hughes, *Asheville-Buncombe Technical Community College*

**Supplements Authors and Reviewers:**

David Dearman, *Piedmont Technical College*
Kelly Damron, *Glendale Community College*
Helen Brubeck, *Saint Mary-of-the-Woods College*
Brett Killion, *Lakeland College*
Sheila Ammons, *Austin Community College*

Dave Alldredge, *Salt Lake Community College*
Michelle Suminski, *Marygrove College*
Connie Belden, *Butler Community College*
Kate Demarest, *Carroll Community College*

The authors would like to express their gratitude for the diligent and exemplary work of all of our contributors, reviewers, accuracy checkers, and supplement authors. Each of you played a part in making this book successful! Thank you!