



CMA®

*IMA's Certification for
Accountants and
Financial Professionals
in Business*

Certified Management Accountant Resource Guide

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Congratulations on becoming a CMA candidate. Passing the exams and receiving your certification will be a major accomplishment and should further your career significantly. The material presented below is designed to help you prepare for the exams. We discuss certification exams in general as well as characteristics of the CMA exams. The discussion is intended to give you a general understanding of the purpose of the CMA and how the exams are constructed. Also discussed are the different types of exam questions, the cognitive levels tested, and how the exams are scored.

CERTIFICATION TESTING

The Certified Management Accountant (CMA) examination program is a certification test. The primary purpose of certification tests is to establish and maintain a standard of professional competence within a profession, with the ultimate aim of protecting the public. The requirements of the CMA Program have been established to recognize those who can demonstrate that they possess a sufficient degree of knowledge and skills in the areas of management accounting and financial management. In this way, the ICMA helps identify practitioners who have met certain predetermined professional standards.

Like most occupational certification tests, the CMA exams are examples of criterion-referenced tests. A criterion-referenced test is one in which a candidate's performance is compared to a predetermined standard or passing score. In criterion-referenced testing, the interpretation of an examinee's score does not depend on the performance of other examinees. Pass or fail status is instead determined by comparing the individual candidate's score with the passing or "cut" score. If a score at or above the cut score is achieved, the examinee passes the test; if a score is below the cut score, the examinee fails the test.

EXAM CONSTRUCTION AND CHARACTERISTICS

The CMA exam parts 1 and 2 consist of 100 multiple-choice questions, which are often referred to as items. Up to three hours are allowed to complete these 100 items. Following the multiple choice items, you will have one hour to complete the essay section of the exam. This section consists of 8-10 written response or calculation questions based on two scenarios, describing a typical business situation. (Note: if you answer fewer than 50% of the multiple choice questions correctly, you will not be allowed to take the essay section.)

The items that comprise the exam part you will be taking are randomly selected from a large database of items. Your particular test is referred to as a "form" and has been selected in accordance with preset instructions to provide adequate coverage of all topics and cognitive levels. The principles that are used in the construction and administration of the exams are discussed below.

Validity

Validity refers to the appropriateness, meaningfulness, and usefulness of a test score. The objective of test validation is to ensure that the test measures what it is intended to measure. The CMA exams are content-valid tests of accounting and financial knowledge, meaning that the content of the exam reflects the tasks, knowledge, skills, and abilities associated with the profession. Such information is obtained through a job analysis, which is a systematic study of the duties and requirements of a profession.

To maintain validity in the examination process, the CMA exams are constructed according to a precise plan or “blueprint,” so that the various topic areas included in the exams are not over- or under-emphasized. The test forms are constructed to be parallel, which means that the number of items appearing in each major content area is exactly the same from form to form. In this way, the exams contain the same content balance, thereby maintaining the same test conditions for all candidates, regardless of when they actually take the test.

Reliability

Reliability refers to the degree of consistency, dependability, or accuracy of a test score. The more reliable the test, the less error due to chance in the test scores. Reliability for the CMA exams is computed through a number of standard statistical measures. To maximize reliability, analysis and improvement of test questions are continuously carried out.

Item Development

Since the test items are the "building blocks" of the examinations, it is important that they be written in a sound, coherent fashion that is free of ambiguities. Accordingly, the ICMA employs a systematic approach for developing test items. All CMA items are reviewed by committees of subject matter experts. Only those items that pass the scrutiny of the review committees and the ICMA examination staff are included within the test.

TYPES OF EXAM QUESTIONS

All multiple choice items within the CMA parts 1 and 2 are of the 4-option multiple-choice type, with one and only one correct answer for each question. There are, however, a number of variations on this type of item used in the CMA exams. In the examples below, the term “stem” refers to all the information that precedes the answer options or alternatives.

Closed Stem Item

This item type is characterized by a stem that is a complete sentence which concludes with a question mark. The options may be complete or incomplete sentences.

Example:

Which one of the following would have the effect of increasing the working capital of a firm?

- a. Cash payment of payroll taxes payable.
- b. Cash collection of accounts receivable.
- c. The purchase of a new plant, financed by a 20-year mortgage.
- d. Refinancing a short-term note with a two-year note.

Key = d

Sentence Completion Item

This type of item is characterized by a stem that is an incomplete sentence. The options represent conclusions to that sentence.

Example:

If a product's elasticity coefficient is 2.0, this means the demand is

- a. perfectly elastic.
- b. elastic.
- c. inelastic.
- d. perfectly inelastic.

Key = b

Except Format

This type of item is employed when you are required to select the option that does not “fit.” In this case, three of the options will fit or be defined by the stem, and one option (the correct option) will not fit. A variation on this type of question is to use the word **not** instead of **except** in the stem, in the form of “Which one of the following is **not**...”.

Example:

All of the following are considered tangible assets **except**

- a. real estate.
- b. copyrights.
- c. prepaid taxes.
- d. accounts receivable.

Key = b

Most/Least/Best Format

This type of item requires you to select an option which is either better or worse than the others. In all cases, the correct answer represents the collective judgment of experts within the field.

Example #1:

Which one of the following **best** describes a production budget?

- a. It is based on required direct labor hours.
- b. It includes required material purchases.
- c. It is based on desired ending inventory and sales forecasts.
- d. It is an aggregate of the monetary details of the operating budget.

Key = c

Example #2:

Which one of the following is **least** likely to help an organization overcome its communication problems between the Accounting Department and other departments?

- a. Job rotation.
- b. Cross-functional teams.
- c. Written policies and procedures.
- d. Performance appraisals.

Key = d

QUESTION LEVELS

In addition to the variety of item formats described above, the CMA exams present test items at varying cognitive levels. These levels range from questions that require a recall of material to questions that require a sophisticated understanding such that you must apply your knowledge to a novel situation, or judge the value of information as it may apply to a particular scenario. A description of each of these levels, along with sample questions, appears below. The cognitive level required for each major topic area of the CMA exams is shown in the Topic/Resource outline.

Level A

This cognitive level represents the “lowest” or most basic level, and includes items that require the recall of facts and the recognition of principles. This level includes the categories of knowledge and comprehension.

Knowledge: This is the lowest level of learning. Items in this category are those that require the recall of ideas, material, or phenomena related to the topic of interest. In these questions, you will be asked to define, identify, and select information.

Example:

A market situation where a small number of sellers comprise an entire industry is known as

- a. a natural monopoly.
- b. monopolistic competition.
- c. an oligopoly.
- d. pure competition.

Key = c

To correctly respond to the item above, you must recall the textbook definition of an oligopoly.

Comprehension: Items in this category require you to grasp the meaning of the material presented in some novel way. A question testing for comprehension describes some principle or fact in words different from those used in textbooks, and often uses a situation as a way to present the idea. In order to answer the item correctly, you must recognize the principle demonstrated in the problem; memory alone will not be sufficient for identifying the correct answer.

Example:

Social legislation is frequently criticized for being inefficient because the agencies

- a. use flexible rather than rigid standards.
- b. rely heavily on the free market to allocate resources.
- c. rarely consider the marginal benefits relative to the marginal costs.
- d. enforce their policies too leniently.

Key = c

In order to answer this item correctly, you must know something about the issues or principles in connection with social legislation. Other questions dealing with this level of testing are those that ask you to identify an option which best explains, illustrates, or provides an example of the concept in question.

Level B

This cognitive level includes items that test for the application of material to novel situations and the ability to analyze or break down information into its component parts. Items that require application or analysis are included in this level.

Application: Items in this category measure understanding of ideas or content to a point where you can apply that understanding to an entirely new situation. The objective of these items is to test whether you can use the knowledge in an appropriate manner in a real-life situation.

Example:

The balance sheet for Miller Industries shows the following.

Cash	\$ 8,000,000
Accounts Receivable	13,500,000
Inventory	7,800,000
Prepaid Expenses	245,000
Property, Plant, & Equipment	4,700,000

Based on this information, what are the Total Current Assets for this firm?

- a. \$21,500,000.
- b. \$29,300,000.
- c. \$29,545,000.
- d. \$34,245,000.

Key = c

Rather than rely on memory or comprehension alone, the situation presented in this item requires you to draw on your knowledge of the calculation of Total Current Assets and apply that knowledge to the particular data presented in the problem. Other items dealing with this level of testing might ask you to identify a specific situation requiring a certain course of action, or the most appropriate procedure or steps to apply to a particular problem.

Analysis: Analysis involves the ability to break down material into its component parts so that its organizational structure can be understood. It involves the ability to recognize parts, as well as the relationships between those parts, and to recognize the principles involved. Items in this category ask you to differentiate, discriminate, distinguish, infer, and determine the relevancy of data.

Example:

A firm is considering the implementation of a lock-box collection system at a cost of \$80,000 per year. Annual sales are \$90 million, and the lock-box system will reduce collection time by 3 days. The firm currently is in debt for \$3,000,000. If the firm can invest the funds designated for the lock-box at 8%, should it use the lock-box system? Assume a 360-day year.

- a. Yes, it will produce a savings of \$140,000 per year.
- b. Yes, it will produce a savings of \$60,000 per year.
- c. No, it will produce a loss of \$20,000 per year.
- d. No, it will produce a loss of \$60,000 per year.

Key = c

In this item, you are presented with a novel situation, and asked to identify the data that are relevant to the problem at hand, which in this case involves the determination of the savings or loss of implementing a lock-box type of collection system. You are required to apply principles to determine savings or loss, and then to make an analysis of the outcomes of the alternative courses of action.

Level C

This cognitive level is considered the “highest” or most challenging level, and includes items that require you to evaluate information.

Evaluation: Items in this category are those that require the ability to judge the value of material for a given purpose, based on definite criteria. These questions include those that ask you to appraise, conclude, support, compare, contrast, interpret, and summarize information.

Example:

A home services organization has been using the straight-line depreciation method for calculating the depreciation expenses of its equipment. Based on recently acquired information, the firm’s assistant controller has altered the estimated useful lives of the equipment. The corresponding changes in depreciation result in a change from a small profit for the year to a loss. The assistant controller is asked by the controller to reduce by half the total depreciation expense for the current year. Believing he is faced with an ethical conflict, the assistant controller reports the problem to the Board of Directors. In accordance with **IMA’s Statement of Ethical Professional Practice** which one of the following is the correct evaluation of the assistant controller’s action?

- a. The assistant controller’s action was appropriate as an immediate step.
- b. The assistant controller’s action would have been appropriate only if other alternatives had first been tried.
- c. The assistant controller’s action was not appropriate under any circumstances.
- d. Not enough information has been given to evaluate the assistant controller’s action.

Key = b

The situation presented in this item requires you to evaluate the course of action that the assistant controller has taken. Option b is the correct option. While the assistant controller’s action is appropriate, the situation may be resolved by less drastic means first. You are asked to make a judgment on the appropriateness of the actions to the situation described, and answer the question on the basis of this information.

STANDARD SETTING, EXAM EQUATING, AND SCALED SCORES

Standard Setting

As described previously, the CMA examinations are criterion-referenced tests, meaning that they are used to determine whether a candidate meets a certain threshold or standard of performance. Accordingly, the ICMA uses an accepted procedure designed for the purpose of determining the level of performance on the tests that actually constitutes passing. This procedure involves the collective judgment of a panel of subject matter experts within the fields of management accounting and financial management. Separate passing scores are established for all parts of the exams, and all pass/fail determinations are final.

Equating

Since the actual items on the CMA exams are different from test form to test form, the different forms of the exam will vary in difficulty, in that some forms may contain somewhat more difficult questions than others. The same standard for passing the test is applied to all candidates, regardless of which form of the test they take. Thus, in order to maintain consistency in standards, the ICMA uses techniques of statistical equating to determine the equivalency of exams. The purpose of equating is to ensure that the passing scores on all forms of the exams are equivalent in terms of levels of difficulty. In this way, the same standard is maintained for all candidates, regardless of when and which test form they take.

Scaled Scores

All scores on the CMA exams are expressed as scaled scores, ranging from 0 to 500, with the passing score set at 360. The raw scores on the test (i.e., the number of items correct) are transformed to this scale for the purpose of maintaining uniformity and consistency in the way scores are reported, regardless of which test forms a candidate may take.

FREQUENTLY ASKED QUESTIONS ABOUT THE EXAM

How many questions are on the exam?

There are 100 multiple choice questions on the CMA exam parts 1 and 2. Each part also contains 2 scenarios, each with several written responses or calculations.

How much time will I have to complete the exam?

For each part, you have three hours in which to complete the multiple choice questions, and 1 hour to complete the two scenarios, for a total of four hours. Once you complete the multiple choice section you cannot go back. (Note: if you answer fewer than 50% of the multiple choice questions correctly, you will not be allowed to take the essay section.)

When I take the exam, will I receive my score immediately?

No; because the written response questions are graded offline, you will receive your total scaled score approximately 6 weeks after the close of the testing window. The written response questions will be graded by subject matter experts and partial credit will be given. For example, if you are asked to give three reasons why a selected alternative action is good for a business and you provide only two correct reasons, you will receive partial credit for these two responses. Likewise, for questions requiring a calculated response, partial credit will be given for a correct formula even though a mathematical error may have been made in the final number.

May I receive more detailed information on my test results?

Advanced Exam Performance Reports will be provided for the multiple choice sections for parts 1 and 2.

How do individual multiple choice questions on the exam affect the score I receive? Are some questions weighted more heavily than others?

Individual multiple choice items within the CMA parts 1 and 2 are not weighted in the sense that one question is worth more points than another question. All questions are of equal point value. The individual questions do determine the relative difficulty of the entire set of questions, or “form,” of the exam. When you take an exam, a set of questions is randomly selected. Each question included in the set of questions has a “difficulty rating” that, together with all the other questions, determines the relative difficulty of that particular set of questions. This relative difficulty determines the number of questions that must be answered correctly in order to pass. A more difficult exam will require a lower number of correct answers to achieve a passing score than an easier exam.

Should I guess if I'm not sure of the correct answer to a question?

There is no penalty for incorrect answers. Therefore, when working on the multiple choice items in CMA parts 1 and 2, you should select an option that seems reasonable rather than leave an answer blank, particularly if you can eliminate one or two of the options as being incorrect. On the essay portion of part 1 and 2, partial credit is available. It is to your advantage to show all of your work.

EXAM TAKING STRATEGIES

The best preparation you can make for taking the exam is thoroughly studying the material and content covered by the examination. Beyond that, however, there are several strategies you can use while taking the test that will help to maximize your performance.

1. Answer the questions that you know first.

Try to avoid dwelling on any particular question(s) for extended periods of time. This will give you the opportunity to answer all of the questions you may know and also allow you to see how much time you have to devote to the questions that are more difficult for you.

2. Mark the difficult questions for later review.

You should approach the test with the expectation that you will encounter at least some questions that you cannot immediately answer. Keep in mind that each question is worth the same number of points (i.e., 1 for correct and 0 for incorrect), regardless of its difficulty. Do not agonize over any particular question, but mark¹ those questions you are unsure of so that you can readily locate them when you are ready to look at them a second time.

3. Read each question carefully, noting any key words.

Pay close attention to the wording of the question. Words such as **except**, **least**, and **most** in a question will have a significant bearing on the correct answer. Think each question through very carefully before answering. You may want to jot down key words that appear in the question, or to rephrase the question in your own words if you are having trouble understanding it.

4. Try to answer the question in your mind before actually looking at the options.

Then see if the answer you formulated exists among the multiple choice options. Doing this could serve as a sort of verification of the correct answer. You should still carefully review the other options as well, to be certain there isn't a more appropriate answer than the one you selected.

5. If you are uncertain about an answer, try to make an educated guess.

You are likely to know something about the topic presented in the question and are, therefore, often able to eliminate at least one incorrect multiple choice option. If you come across an item for which you truly do not know the answer, try to eliminate

¹ The CMA exam delivery program has a provision for doing this.

those options that you deem likely to be incorrect. This will increase your chances of selecting the correct answer.

6. Answer ALL of the questions.

The CMA exams do not employ a penalty for incorrect answers. Points are **not** deducted from your score for an incorrect answer. There is nothing to gain by leaving questions unanswered; therefore, answer all questions on the exam.

7. Use the full time allotted to you.

In a similar vein, there is no advantage in ending the test early. Make the most of any remaining time you may have by reviewing your work, making corrections, or going back to more difficult questions. It is possible that during such review time, you will recall some fact or information which you may have previously overlooked on one or more questions. Though it may seem like a relief to end the test early, bear in mind that the allotted time will end soon enough, and you will want to make the most of the few minutes you have remaining to you to help maximize your score.

Answer Changing

One of the great myths about taking tests is that one should not change one's answer on an objective examination, because the first answer is usually the right one. The admonition to stay with your original answer because your first instinct is likely to be correct is actually incorrect. Numerous studies of testing have shown that, on average, when candidates change their responses to a test question, about 55% of the time the change is made from a wrong answer to a right one, thereby resulting in an increased score. Another 23% of the time, examinees will change their responses from a wrong answer to another wrong answer, resulting in no change to their scores. Only about 20% of the time will candidates change from a right answer to a wrong answer. Therefore, if you have good reason to believe that a change to your answer is warranted, making such a change will more often than not lead to either an increase or at the very worst no change to your total score. The chances of negatively impacting your total score by making such changes are only likely to be one in five.

Test Anxiety

Test anxiety is natural and is likely to be experienced by most examinees to some degree. Some examinees are able to channel their anxiety in a positive way; others have more difficulty managing their anxiety. Test anxiety can result in mental distractions, mental blocks, and physical symptoms of anxiety that may affect your performance on the exam.

You can reduce your anxiety by recognizing some of the factors that contribute to it. For instance, test anxious examinees often lose perspective on the situation by seeing the test as a final or one-time opportunity, which it rarely is; make an effort to remind yourself of this when taking the exam. If you draw a "blank" during the exam, do not panic, since such an occurrence is quite normal. Return to the question at a later time or take a few moments to relax until it comes back to you. Try to replace any self-defeating thoughts like "I haven't studied enough" or "I don't know the material" with more positive internal messages - the chances are you will know more about the material than you think. Finally, effective study and preparation is a strong, if not the strongest, approach for enhancing self-confidence and reducing nervousness.

EXAM SITES AND SAMPLE SCREEN LAYOUT

Another possible source of anxiety is not knowing what to expect at the exam site. The ICMA uses Prometric to administer the exams. Prometric has an extensive network of U.S. and international testing centers. See this link <http://www.prometric.com/ICMA/default.htm> for locations.

These Prometric Testing Centers (PTCs) are permanent computer-equipped testing facilities with testing hours available daily (except holidays and Sundays in certain locations) in the U.S. Internationally, testing times are set in accordance with local laws and customs. All U.S. PTCs are handicapped accessible and conform with the Americans with Disabilities Act (ADA).

The PTCs offer private, modular testing booths with ample workspace, comfortable seating, proper lighting, and ventilation. The computer workstations employ state-of-the-art technology with high-clarity screen displays to minimize eye-strain. Candidates may use either a computer keyboard or a mouse to enter test answers.

On request, candidates will be provided with scrap paper and pencils for use in making calculations. The scrap paper is counted by the test center personnel and all paper is collected at the end of the exam. Candidates are allowed to bring a small battery or solar powered electronic calculator with no more than 6 functions - addition, subtraction, multiplication, division, square root, and percent. The calculator must be non-programmable, must not use tape, and memory must erase when the calculator is turned off. The following two specific financial calculators are also permitted: Texas Instrument BAI Plus and Hewlett-Packard 10bII.

Candidates are not permitted to bring personal belongings, such as purses, briefcases, and jackets, into the testing room. Small lockers are available at the test centers for storage of personal belongings.

At the start of the test, you will be taken through a short tutorial that introduces the testing screens and shows you how to select answers and mark questions for review. The tutorial can be repeated if you wish; however, total tutorial time is limited to 15 minutes. Following the tutorial, the exam begins. The time remaining to complete the exam is displayed in the upper right corner of the screen. The tutorial does not affect the three hours allowed for the exam part being taken.

A sample screen layout for the multiple choice sections of CMA parts 1 and 2 is provided on the next page. This screen layout shows the time display; the next and previous selections, which take you to the next or previous page; the selection to mark a question for review; and the selection to review marked items.

The CMA written-response questions will be delivered via computer at Prometric Testing Centers in the same manner as the other exam parts. For these questions, you will have a text box in which to type your response.

CMA Multiple Choice sample screen shot

Question 92 of 100

Test Taker
Part 2 Financial Decision Making

Time Remaining: 02:55:04

On January 1, Rosewater Company leased a computer for four years at a monthly rent of €80, payable at the end of each month. Due to the rate of technological change, the computer is expected to become obsolete within five years. At the inception of the lease, the computer was retailing for €3,450. If Rosewater had purchased the computer, it could have borrowed the funds at 10%. At a 10% interest rate, the present value of the lease payments is €3,154. Rosewater does not know the rate implicit in the lease. According to IFRS, Rosewater should report (to the closest euro) which one of the following expense charges for the month of January?

- C a. Interest expense, €26; depreciation expense, €66.
- C b. Interest expense, €0; rent expense, €80.
- C c. Interest expense, €29; depreciation expense, €58.
- C d. Interest expense, €29; rent expense, €80.

Calculator

Time Value Tables

PREVIOUS

NEXT

MARK

REVIEW

CMA Essay Format sample screen shot

Question 8 of 8 Test Taker
Part 1 Financial Planning, Performance and Control
Time Remaining: 00:35:57

Vonis Inc.'s president has projected sales of 10,000,000 units of its only product for the coming year with an anticipated selling price of \$22 per unit. Vonis expects a beginning finished goods inventory of 100,000 units with a cost of \$2,000,000, and an ending finished goods inventory of 150,000 units. The company uses a just-in-time purchasing system and anticipates no beginning or ending inventory of materials. Each unit of finished goods is budgeted to incur three pounds of material at an anticipated cost of \$4.00 per pound as well as .25 hours of direct labor at an expected cost of \$20.00 per hour. Manufacturing overhead will be applied at the budgeted rate of \$2.00 per direct labor hour for variable overhead and \$3.00 per direct labor hour for fixed overhead. The company anticipates variable selling and administrative costs of \$1.00 per unit sold and fixed selling and administrative costs of \$1,500,000. After the president discussed the sales budget with the sales manager, the budgeted sales volume for the coming year was decreased by 1,000,000 units due to the sales manager's strong opinion that the original budget was unattainable.

Midway through the year, Vonis Inc.'s president discovered that the sales manager had intentionally underestimated budgeted sales volume for the year in order to maximize the bonus he would receive for exceeding the budgeted sales forecast. Identify and discuss three actions Vonis could take to minimize manipulative behavior in developing budgets.

Cut Copy Paste Save

Calculator Time Value Tables

PREVIOUS NEXT MARK REVIEW

EXAM STATISTICS

The pass rate summary can be found on our website at http://www.imanet.org/PDFs/Public/CMA/Pass_Rates.pdf. The historical pass rates are not necessarily indicative of what the pass rates will be in the future, but they do give you a sense of the rigor of the exam.

STUDY MATERIALS

The material in the remainder of the resource guide is provided to assist you in achieving certification. We also offer an Exam Support Package, with sample questions, an assessment tool, and study hints. See this link for more information:

www.imanet.org/certification_preparation_exam_package.asp

This material must be supplemented with textbooks from the suggested reading list and/or review materials provided by many independent sources. The independent sources offer self-study review materials in several formats, including textbooks, audio tapes, and software. Many of these independent sources also offer live review classes. While the ICMA does not sponsor or promote any of the review materials, to help you with your study efforts many are listed on our website: www.imanet.org/certification_preparation_study_self.asp.

The following resource material provided includes:

- **Suggested Reading List**: A listing of selected textbooks containing appropriate study materials. If you have a similar text that is not listed or an edition of a listed text that is a few years older, these should provide adequate study material. In other words, you do not necessarily need the latest editions nor exactly the same books.
- **Topic/Resource Outline**: For each major topic in the content specification, the ICMA has provided textbook references to guide your studies. The references should be considered alternatives (i.e., one is enough), and the order in which the textbooks are listed does not denote a preference for one book over another. It should be noted that the detailed content specification outline, along with the explicit Learning Outcome Statements can be found on our website (www.imanet.org/certification_preparation_content.asp).
- **Ethical Standards**: These are the IMA's Statement of Ethical Professional Practice and resolution of ethical conflict. All IMA members are required to abide by these standards. Questions on ethical standards **will** appear on part 1 of the exam.

SUGGESTED READING LIST

PART 1: Financial Planning, Performance and Control

Planning, Budgeting and Forecasting

Blocher, Edward, J., Stout, David E., and Cokins, Gary, *Cost Management: A Strategic Emphasis*, 5th edition, McGraw Hill, New York, NY, 2010.

Hornngren, Charles T., Datar, Srikant, Rajan, Madhav, *Cost Accounting: A Managerial Emphasis*, 14th edition, Prentice-Hall, Upper Saddle River, NJ, 2012.

Anderson, David, R., Sweeney, Dennis J., Williams, Thomas A., Camm, Jeff, and Martin, R. Kipp, *Quantitative Methods for Business, 11th Edition*, Mason, Ohio: South Western, 2010.

Performance Management

Blocher, Edward, J., Stout, David E., and Cokins, Gary, *Cost Management: A Strategic Emphasis*, 5th edition, McGraw Hill, New York, NY, 2010.

Hornngren, Charles T., Datar, Srikant, Rajan, Madhav, *Cost Accounting: A Managerial Emphasis*, 14th edition, Prentice-Hall, Upper Saddle River, NJ, 2012.

Cost Management

Blocher, Edward, J., Stout, David E., and Cokins, Gary, *Cost Management: A Strategic Emphasis*, 5th edition, McGraw Hill, New York, NY, 2010.

Hornngren, Charles T., Datar, Srikant, Rajan, Madhav, *Cost Accounting: A Managerial Emphasis*, 14th edition, Prentice-Hall, Upper Saddle River, NJ, 2012.

Internal Controls

Simkin, Mark G., Rose, Jacob M., Norman, Carolyn S., *Core Concepts of Accounting Information Systems*, 12th edition, John Wiley & Sons, Hoboken, NJ, 2012.

Bodnar, George, H., and Hopwood, William S., *Accounting Information Systems*, 10th edition, Prentice-Hall, Upper Saddle River, NJ, 2010.

Sawyer, Lawrence B., Dittenhofer, Mortimer A., and Graham, Anne, eds., 2003. *Sawyer's Internal Auditing: The Practice of Modern Internal Auditing*, 5th edition, IIA, Altamonte Springs, FL, 2003.

Professional Ethics

IMA, 2005, *IMA Statement of Ethical Professional Practice*, http://www.imanet.org/PDFs/Statement_of_Ethics_web.pdf.

SUGGESTED READING LIST (CONTINUED)

Part 2: Financial Decision Making

Financial Statement Analysis

Mackenzie, Bruce, Coetsee, Danie, Njikizana, Tapiwa, Chamboko, Raymond, Colyvas, Blaise, and Hanekom, Brandon, *2012 Interpretation and Application of International Financial Reporting Standards*, John Wiley & Sons, Hoboken, NJ, 2012.

Gibson, Charles H., *Financial Reporting & Analysis*, 13th edition, South-Western Cengage Learning, Mason, OH, 2013.

Subramanyam, K.R., and Wild, John L., *Financial Statement Analysis*, 10th edition, McGraw Hill, New York, NY, 2009.

Corporate Finance

Brealey, Richard, A., Myers, Stewart C., and Allen, Franklin, *Principles of Corporate Finance*, 10th edition, McGraw Hill, New York, NY, 2011.

Van Horn, James, C., and Wachowicz, John M. Jr., *Fundamentals of Financial Management*, 13th edition, FT / Prentice Hall, Harlow, England, 2009.

Decision Analysis and Risk Management

Blocher, Edward, J., Stout, David E., and Cokins, Gary, *Cost Management: A Strategic Emphasis*, 5th edition, McGraw Hill, New York, NY, 2010.

Hornigren, Charles T., Datar, Srikant, Rajan, Madhav, *Cost Accounting: A Managerial Emphasis*, 14th edition, Prentice-Hall, Upper Saddle River, NJ, 2012.

COSO, The Committee of Sponsoring Organizations of the Treadway Commission, 2004. *Enterprise Risk Management – Integrated Framework*.

Moeller, Robert R., *COSO Enterprise Risk Management*, 2nd edition, John Wiley & Sons, Inc., Hoboken, NJ, 2011.

IMA, 2006, *Enterprise Risk Management: Frameworks, Elements, and Integration*, http://www.imanet.org/resources_and_publications/research_studies_and_statements/statements_on_management_accounting.aspx (members only)

IMA, 2007, *Enterprise Risk Management: Tools and Techniques for Effective Implementation*, http://www.imanet.org/resources_and_publications/research_studies_and_statements/statements_on_management_accounting.aspx (members only)

SUGGESTED READING LIST (CONTINUED)

Part 2 (continued)

Investment Decisions

Brealey, Richard, A., Myers, Stewart C., and Allen, Franklin, *Principles of Corporate Finance*, 10th edition, McGraw Hill, New York, NY, 2011.

Van Horn, James, C., and Wachowicz, John M. Jr., *Fundamentals of Financial Management*, 13th edition, FT / Prentice Hall, Harlow, England, 2009.

Professional Ethics

IMA, 2008, *Values and Ethics: From Inception to Practice*

http://www.imanet.org/resources_and_publications/research_studies_and_statements/statements_on_management_accounting.aspx (members only)

United States Department of Justice, *Lay-person's Guide to Foreign Corrupt Practices Act*,

<http://www.justice.gov/criminal/fraud/fcpa/docs/lay-persons-guide.pdf>.

TOPIC/RESOURCE OUTLINE

Part 1: Financial Planning, Performance and Control

A. Planning, Budgeting and Forecasting (30% - Levels A, B, and C)

1. Budgeting concepts Blocher, Chapter 10
Horngren, Chapter 6
2. Forecasting techniques Anderson, Chapter 6
3. Budgeting methodologies Blocher, Chapters 10
Horngren, Chapters 6-8
4. Annual profit plan and supporting schedules Blocher, Chapter 9, 10
Horngren, Chapters 6-8
5. Top-level planning and analysis Blocher, Chapter 11
Horngren, Chapter 6

B. Performance Management (25% - Levels A, B, and C)

1. Cost and variance measures Blocher, Chapters 14, 16
Horngren, Chapters 7, 8, 19, 22, 23
2. Responsibility centers and reporting segments Blocher, Chapters 18, 19
Horngren, Chapters 6, 7, 8, 14, 15, 22, 23
3. Performance measures Blocher, Chapters 5
Horngren, Chapters 13, 23

C. Cost Management (25% - Levels A, B, and C)

1. Measurement concepts Blocher, Chapters 14, 15, 16
Horngren, Chapters 2, 4, 9, 10, 16
2. Costing systems Blocher, Chapters 3, 4, 5, 6
Horngren, Chapters 4, 5, 17, 20
3. Overhead costs Blocher, Chapter 7
Horngren, Chapters 4, 5, 8, 14, 15
4. Operational Efficiency Blocher, Chapters 13
Horngren, Chapters 3, 9
5. Business process performance Blocher, Chapters 2
Horngren, Chapters 22, 23

D. Internal Controls (15% - Levels A, B, and C)

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|---|---|
| 1. Risk assessment, controls, and risk management | Sawyer, Chapters 2, 3
Simkin, Chapter 9
Bodnar, Chapters 5, 6 |
| 2. Internal auditing | Sawyer, Chapter 1 |
| 3. Systems controls and security measures | Sawyer, Chapters 13-15
Simkin, Chapters 6, 10, 11
Bodnar, Chapters 5, 6, 13 |

E. Professional Ethics (5% - Levels A, B, and C)

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| 1. Ethical considerations for the professional | IMA's "Statement of Ethical Professional Practice" |
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Part 2- Financial Decision Making

A. Financial Statement Analysis (25% - Levels A, B, and C)

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| 1. Basic financial statement analysis | Gibson, Chapters 2-5
Subramanyam, Chapters 1, 2 |
| 2. Financial performance metrics – financial ratios | Gibson, Chapters 3-9
Subramanyam, Chapters 10, 11 |
| 3. Profitability analysis | Gibson, Chapter 8
Subramanyam, Chapter 8 |
| 4. Analytical issues in financial accounting | Gibson, Chapter 9
Subramanyam, Chapters 3, 5
Mackenzie, Chapters 8, 11, 20, 22, 23, 35, |

B. Corporate Finance (25% - Levels A, B, and C)

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|----------------------------|--|
| 1. Risk and return | Brealey, Chapter 7, 9
Van Horne, Chapter 5 |
| 2. Managing financial risk | Brealey, Chapter 26
Van Horne, Chapter 16 |
| 3. Financial instruments | Brealey, Chapters 14, 23-25
Van Horne, Chapters 11, 20-22 |
| 4. Cost of capital | Brealey, Chapter 9
Van Horne, Chapter 15 |
| 5. Managing current assets | Brealey, Chapters 29, 30
Van Horne, Chapters 8-10 |
| 6. Raising capital | Brealey, Chapters 23-25
Van Horne, Chapters 19-22 |
| 7. Corporate restructuring | Brealey, Chapters 31, 32
Van Horne, Chapter 23 |
| 8. International finance | Brealey, Chapter 27
Van Horne, Chapter 24 |

C. Decision Analysis and Risk Management (25% - Levels A, B, and C)

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|--------------------------------|--|
| 1. Cost/volume/profit analysis | Blocher, Chapter 9
Horngren, Chapter 3 |
| 2. Marginal analysis | Blocher, Chapter 11
Horngren, Chapter 11 |
| 3. Pricing | Blocher, Chapter 13
Horngren, Chapter 12 |
| 4. Risk assessment | Moeller, Chapters 4–8, 16
COSO, <i>Enterprise Risk Management</i>
IMA, <i>ERM, Frameworks</i>
IMA, <i>ERM, Tools and Techniques</i> |

D. Investment Decisions (20% - Levels A, B, and C)

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| 1. Capital budgeting process | Brealey, Chapters 5, 6
Van Horne, Chapters 12, 13 |
| 2. Discounted cash flow analysis | Brealey, Chapter 6
Van Horne, Chapter 13 |
| 3. Payback and discounted payback | Brealey, Chapter 6
Van Horn, Chapter 13 |
| 4. Ranking investment projects | Brealey, Chapter 6
Van Horne, Chapter 13 |
| 5. Risk analysis in capital investment | Brealey, Chapter 10
Van Horne, Chapter 14 |
| 6. Valuation | Brealey, Chapters 3, 4
Van Horne, Chapter 4 |

E. Professional Ethics (5% - Levels A, B, and C)

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| 1. Ethical considerations for the organization | U.S. Foreign Corrupt Practices Act
IMA's " <i>Values and Ethics: From Inception to Practice</i> " |
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IMA STATEMENT OF ETHICAL PROFESSIONAL PRACTICE

Members of IMA shall behave ethically. A commitment to ethical professional practice includes: overarching principles that express our values, and standards that guide our conduct.

PRINCIPLES

IMA's overarching ethical principles include: Honesty, Fairness, Objectivity, and Responsibility. Members shall act in accordance with these principles and shall encourage others within their organizations to adhere to them.

STANDARDS

A member's failure to comply with the following standards may result in disciplinary action.

I. COMPETENCE

Each member has a responsibility to:

1. Maintain an appropriate level of professional expertise by continually developing knowledge and skills.
2. Perform professional duties in accordance with relevant laws, regulations, and technical standards.
3. Provide decision support information and recommendations that are accurate, clear, concise, and timely.
4. Recognize and communicate professional limitations or other constraints that would preclude responsible judgment or successful performance of an activity.

II. CONFIDENTIALITY

Each member has a responsibility to:

1. Keep information confidential except when disclosure is authorized or legally required.
2. Inform all relevant parties regarding appropriate use of confidential information. Monitor subordinates' activities to ensure compliance.
3. Refrain from using confidential information for unethical or illegal advantage.

III. INTEGRITY

Each member has a responsibility to:

1. Mitigate actual conflicts of interest. Regularly communicate with business associates to avoid apparent conflicts of interest. Advise all parties of any potential conflicts.
2. Refrain from engaging in any conduct that would prejudice carrying out duties ethically.
3. Abstain from engaging in or supporting any activity that might discredit the profession.

IV. CREDIBILITY

Each member has a responsibility to:

1. Communicate information fairly and objectively.
2. Disclose all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, analyses, or recommendations.
3. Disclose delays or deficiencies in information, timeliness, processing, or internal controls in conformance with organization policy and/or applicable law.

RESOLUTION OF ETHICAL CONFLICT

In applying the Standards of Ethical Professional Practice, you may encounter problems identifying unethical behavior or resolving an ethical conflict. When faced with ethical issues, you should follow your organization's established policies on the resolution of such conflict. If these policies do not resolve the ethical conflict, you should consider the following courses of action:

1. Discuss the issue with your immediate supervisor except when it appears that the supervisor is involved. In that case, present the issue to the next level. If you cannot achieve a satisfactory resolution, submit the issue to the next management level. If your immediate superior is the chief executive officer or equivalent, the acceptable reviewing authority may be a group such as the audit committee, executive committee, board of directors, board of trustees, or owners. Contact with levels above the immediate superior should be initiated only with your superior's knowledge, assuming he or she is not involved. Communication of such problems to authorities or individuals not employed or engaged by the organization is not considered appropriate, unless you believe there is a clear violation of the law.
2. Clarify relevant ethical issues by initiating a confidential discussion with an IMA Ethics Counselor or other impartial advisor to obtain a better understanding of possible courses of action.
3. Consult your own attorney as to legal obligations and rights concerning the ethical conflict.