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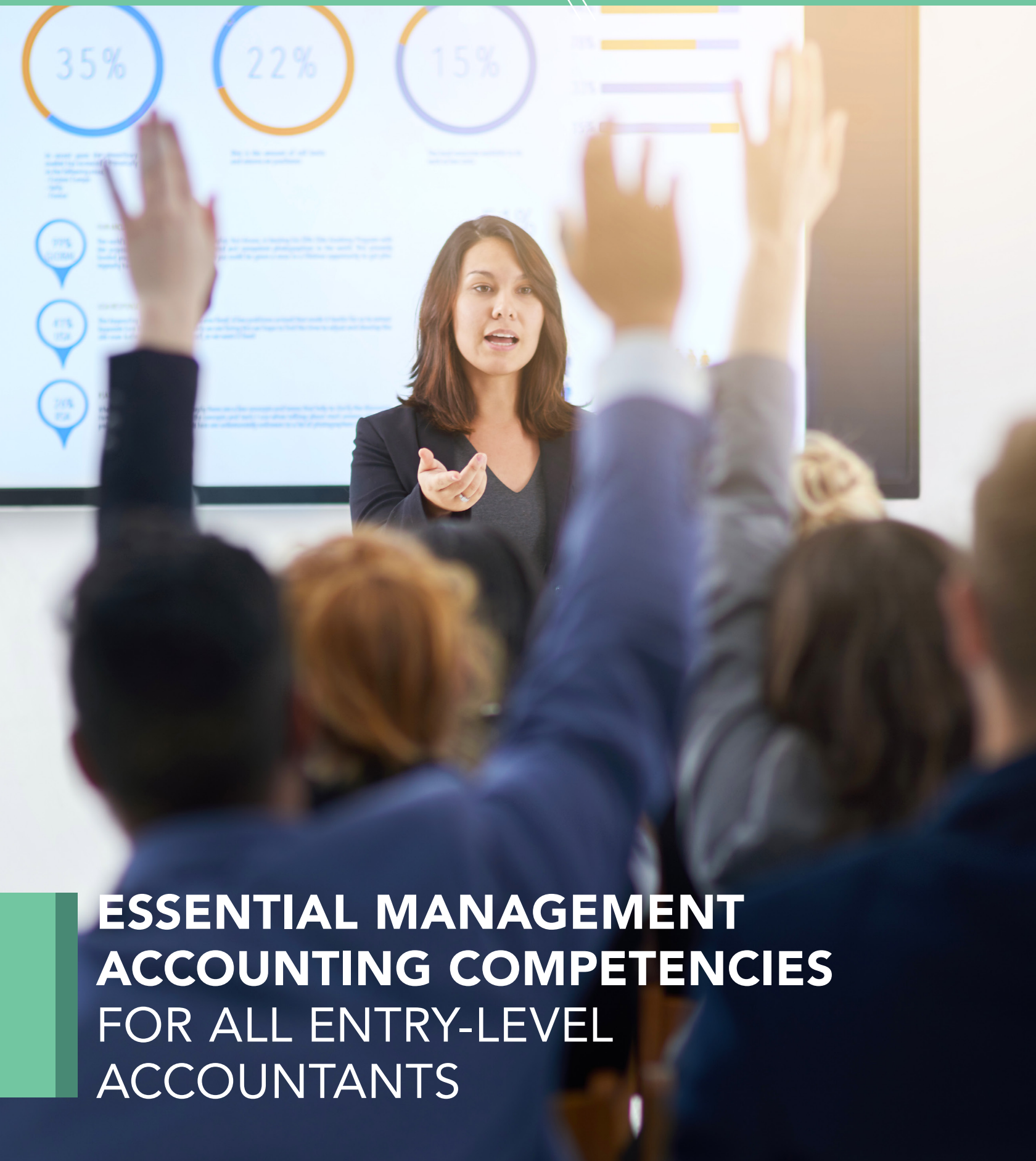
The Association of Accountants and Financial Professionals in Business

Statement on Management Accounting



ESSENTIAL MANAGEMENT ACCOUNTING COMPETENCIES FOR ALL ENTRY-LEVEL ACCOUNTANTS

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The Association of Accountants and Financial Professionals in Business

IMA® (Institute of Management Accountants) is a global professional association focused exclusively on advancing the management accounting profession.

Statement on Management Accounting

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INTRODUCTION

This document was developed by the IMA® (Institute of Management Accountants) Management Accounting Competency Task Force. As the accounting profession rapidly evolves, the skills and competencies needed to succeed in it are also changing. This report is intended to provide insight to academics, students, and practitioners on the management accounting competencies essential for all entry-level accountants, with the goal of helping better prepare current and future accountants for the new practice environment. •

EXECUTIVE **SUMMARY**

The role of the professional accountant is evolving. Technology is eliminating many repetitive, routine tasks, allowing time for more strategic, value-added activities. This trend, combined with the availability of greater sources and volumes of data alongside increased demand for internal decision support and more sophisticated analytics, is changing the role of accounting professionals to that of strategic business partners focused on creating organizational value. Most importantly, possessing these abilities is crucial earlier in an accountant's career.

All accountants, including those in entry-level positions, need to develop a deeper and expanded set of competencies. In particular, they must integrate their technical accounting knowledge with enhanced use of technology and data analytics. To add more value to their organizations, accountants must also understand business operations and become adept with strategy and strategic management.

The domain of management accounting has always been an important part of an accountant's competencies. Management accounting, with its focus on strategy, analysis, decision making, and cross-functional integration, is even more essential today. Nevertheless, the time constraints of accounting curricula require accounting educators to carefully prioritize the important aspects of management accounting for their students.

This report provides two major resources for accounting education. First, it details the management accounting competencies that all entry-level accounting professionals should possess regardless of whether they initially pursue a position in industry, public accounting, or elsewhere. Second, it suggests management accounting course topics for each essential competency. Although course offerings and topics are likely to vary across accounting programs, this report illustrates possible ways in which management accounting topics could be addressed in two required courses (introductory management accounting and intermediate management accounting) plus an elective advanced course for students seeking greater depth. •

CONTRIBUTORS

This report was prepared by a core team with extensive experience in developing competency and implementation guidance for both universities and accounting associations including the Association of International Certified Professional Accountants (AICPA), Chartered Professional Accountants of Canada (CPA Canada), IMA, and the International Accounting Education Standards Board (IAESB). The initial recommendations developed by the Task Force were reviewed by academic and practice review panels, composed of the individuals listed below, whose assistance is gratefully acknowledged and whose feedback was incorporated into a publicly disseminated Exposure Draft. We note that our recommendations do not necessarily reflect those of individual reviewers. Comments received on the Exposure Draft were reviewed and are reflected in this final report. We thank those who submitted comments for their contributions.

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Impact of the Evolving Role of **Professional Accountants on Essential Competencies**

We are living in a world shaped by fast-changing technological advances, climate change, economic volatility, geopolitical unrest, aging populations, and other trends. This rapidly changing environment requires organizations of all types to be more agile and adaptable in order to survive and prosper. Professional accountants—in every part of our profession—need to be prepared to contribute to the success of their organizations, to be "value creators," adding value for both internal and external stakeholders.

Fulfilling this role will be challenging. The nature of the accounting profession is rapidly evolving with cutting-edge technology and analytics eliminating some jobs while modifying others and creating entirely new opportunities. Skill sets that were sufficient in the past are swiftly becoming obsolete, and accountants must develop and use more complex competencies earlier in their careers.

The objective of the Management Accounting Competency Task Force was to support the increasing relevance of management accounting education and to reflect on and recommend necessary skills for entry-level accountants. The goal was to ensure entry-level accountants are best positioned to support and advise organizations through their respective transformation and value-delivery journeys in the new world. As forthcoming changes to the CPA (Certified Public Accountant) exam provide an opportune time for universities to reexamine their accounting curricula, we recommend also reexamining what is taught in the management accounting curriculum. Management accounting educators need to rethink how their courses are taught and what students need to learn for successful future careers.

Necessary competencies for future practice have been described in frameworks developed by numerous professional organizations. "Soft skills"—including ethical behavior, communication, collaboration, change management, leadership skills, and more—are universally mentioned and covered in competency frameworks. So are technical accounting skills such as external financial reporting, audit, and taxation. Less uniformly described in these frameworks are the key management accounting competencies that all entry-level accountants need to possess. Regardless of where they enter the accounting profession, every accountant needs an understanding of key management accounting concepts. Failure to develop major management accounting competencies will leave future professionals ill-prepared to fulfill the emerging role of the professional accountant—to the detriment of their careers, the organizations for which they will work, and the public interest. •

Essential Management **Accounting Competencies**

"Management accounting competencies are the foundation for professional development in the accounting and finance profession. This baseline understanding of cost, revenue, and performance is essential in becoming a financial strategist and catalyst with the ability to drive business innovation and value creation."
–Rich Brady, commander, CEO, United States Military Entrance Processing Command

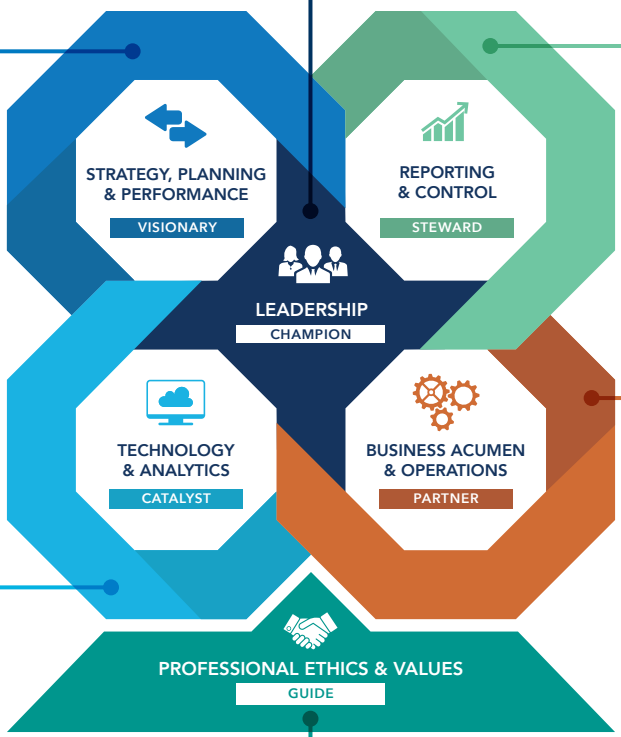
The role of the professional accountant is evolving and in turn affecting every competency area. Figure 1, for example, illustrates how the future of accounting and finance may impact each of the six competency domains in the IMA Management Accounting Competency Framework.

FIGURE 1: EVOLVING COMPETENCIES AND THE IMA MANAGEMENT ACCOUNTING COMPETENCY FRAMEWORK

Future Skills for Accountants:
- Increasing performance management beyond financial statements
- Greater strategic value added by accountants
- Focus on wider range of stakeholders
- Use technology and analysis for strategy, planning, and performance improvement
- More thorough decision analysis early in career

Future Skills for Accountants:
- Greater future leadership skills earlier in career

Future Skills for Accountants:
- Increasing focus on internal reporting including performance management and environmental, social, and governance performance (vs. external reporting)
- Internal control for internal reporting
- Use technology and analysis for internal reporting



Future Skills for Accountants:
- Accelerating change in technology
- Shift from past to real-time and forward-looking information
- Increasing use of data visualization
- Increased governance and ethics risks
- Greater value added by accountants
- Participate in development and monitoring of IT processes for data integrity, ethics, and security

Future Skills for Accountants:
- Greater operational knowledge and application
- Contextualized revenue, cost, and profitability management
- Continuous learning for accountants and for organizations
- Work with internal teams: quality, change, and projects
- Includes for-profits, not-for-profits, and government entities
- Learn and apply new business frameworks and models
- Use technology and analysis for operations

Future Skills for Accountants:
- Greater attention to organizational ethics
- Use technology and analysis for ethics

In developing its list of essential management accounting competencies, the Management Accounting Competency Task Force adopted a forward-looking approach, focusing on the competencies entry-level accountants will need for success in the future and not just on the competencies commonly included in accounting education today. For example, revenue management is an area of emerging importance. As accountants assume the role of strategic business advisors, they need to investigate and offer recommendations on the diverse factors impacting organizational success. Creating value requires proficiency in addressing the diverse factors that impact business success. The traditional focus on costing is insufficient for future accountants. It is increasingly critical that accountants understand the limitations of the financial accounting/reporting model and be capable of supporting an internal decision support perspective of an organization.

The management accounting competencies that all entry-level accounting professionals should possess to understand the needs and environment of business regardless of whether they initially pursue a position in industry, public accounting, or elsewhere include:

Domain	Competency
Strategic Management Accounting and Analysis	• Strategic and Tactical Planning • Decision Analysis • Budgeting and Forecasting • Performance Management
Revenue, Cost, and Profitability Management	• Revenue Management • Managerial Costing • Profitability Management
Technology, Analytics, and Data Management	• Management Information Systems • Data Governance • Data Analytics • Technology-Enabled Finance Transformation
Professional Ethics	• Personal Ethics • Organizational Ethics

These competencies are presented in Appendix 1 along with related learning outcomes and learning objectives. This is not a listing of all the competencies professional accountants specifically need, which is much broader, including abilities in areas such as external financial reporting, audit, tax, and other business disciplines. Entry-level accountants also require professional competencies in "soft skill" areas including communication, cross-functional teamwork, self-management, and critical thinking, which are also largely excluded as they are important throughout the business curriculum.

When reviewing this list of essential management accounting competencies and related learning objectives, emphasis should be placed on the competencies and objectives themselves rather than the domains in which they are grouped. In many cases, a given competency could be classified in more than one domain, and the Task Force placed it in the domain considered to be most appropriate. Additionally, the competency of data analytics pervades each of the other competencies but is included here as a separate competency to reduce redundancy in presentation.

The need to incorporate more data analytics coverage is well established. It provides both a challenge and an opportunity to accounting programs: The challenge is to appropriately integrate data analytics into the existing curriculum, avoiding the pitfall of merely adding stand-alone data analytics courses; the opportunity is to reprioritize content, such as customer costing, which could be covered in the advanced management accounting course for students who want deeper management accounting knowledge. •

The Importance of **Management Accounting**

The essence of management accounting is financial internal decision support. Management accounting is not constrained by financial reporting standards; rather, it seeks to reflect and provide deep insight into the causal relationships of resources, processes, customers, and the actual economic conditions businesses face. The goal is to enable an organization—from top to bottom—to use information that is meaningful, operationally and economically consistent, and which will create value over the long term.

Management accounting should be introduced and taught as an entirely distinct subject of financial and monetary modeling, data, and information based on causal relationships, not as an extension or adjunct to financial accounting/reporting and its standard defined model. Financial accounting/reporting is a specific and limited "model"; management accounting for financial internal decision support is an equally important and essential model.

Management accounting must stand on its own as an equal accounting discipline that is essential for companies to build robust and usable financial internal decision support models and information. Increasing automation and artificial intelligence (AI) will gradually diminish the work of accountants in financial accounting, reporting, and tax. Management accounting is therefore vital to the future of the accounting profession. •

The Need for Management Accounting Courses— Value Added

Management accounting is inherently an interdisciplinary field, overlapping in functional domain with every other business discipline. This overlap reflects the cross-disciplinary nature of management accounting and contributes to the ability of management accountants to add value to their organizations. In an effort to streamline curricula, some business schools have eliminated or reduced their number of management accounting courses, choosing to include vital management accounting content in other courses.

For example, marketing courses might take over the practical application of microeconomics topics such as cost behavior, breakeven analyses, and customer profitability. Operations courses might assume responsibility for topics such as supply chain, automation, costing, and, more generally, performance measurement and management—particularly below top-management levels. Data analytics courses, an area of growth in many curricula, are teaching data science models, decision analyses, and predictive analytics topics. Financial accounting and auditing courses address internal control and data governance frameworks. Information systems courses teach data governance, data processing, privacy, AI, and cybersecurity topics. Finance courses already teach capital budgeting, allocations of resources, and risk management topics. Organizational behavior courses have long included topics such as leadership,

supervision, teams, and culture. And strategy courses have always addressed the topics of strategy, tactical planning, and critical success factors (CSFs).

What, then, is the value added of specific management accounting courses if much of the content is covered elsewhere in a business school curriculum?

Expertise of Management Accounting Educators

Significant elements of management accounting need to be taught by management accounting specialists. Management accounting instructors have specialized content knowledge that cannot be easily replicated by faculty in other disciplines. The subtleties of the field are crucial to the formation of entry-level accountants. Faculty of other disciplines may not be able to address the complex nuances of how accounting information is produced, the quality of that information, and how to properly use that information. They may also be unaware of potential issues in using financial accounting and reporting information for internal decision support. If students are not taught by management accounting specialists, they run the risk of failing to learn even what management accounting is, and they miss valuable opportunities for rewarding careers in the area. For proper competency formation, accounting students need to be taught by management accounting faculty.

Incomplete Coverage of Management Accounting Knowledge

Essential management accounting knowledge is not likely to be taught by faculty in other domains. Although other business fields use management accounting information, some essential topics are learned only in management accounting courses. This includes the development of internal decision support models that reflect causal resource and process relationships. Examples include budgeting theory and application, costing and allocation techniques, profitability analyses of organizational segments (e.g., products, customers, and departments), responsibility center management, and activity-based costing (ABC) and management. Even if these topics are included in another business course, the importance of the topic may be inadequately stressed.

Management Accounting Content Overlap

It is well recognized that management accounting has many overlapping subject areas with other disciplines (functional domains) in business schools. Rather than viewing the inclusion of management accounting-related topics in the curriculum as a "division" of topics among courses, it should be recognized that there is an "indispensable complementarity" of management accounting knowledge to everything else business students learn. Complementarity is not to be confused with substitutability, where the former affords or even necessitates a key slot to management accounting in the curriculum, whereas the latter imprudently considers it to be redundant or obsolete.

Content overlap provides students with a valuable opportunity to see the "big picture" and cross-functional nature of business. When a student encounters a topic in multiple courses from a variety of perspectives with different purposes, the topic will be learned at a deeper level. This overlap is beneficial, but it is not sufficient for disciplinary depth. The key to success for student learning is that each discipline presents the topic with its unique focus. For example, it is necessary for marketing to discuss pricing, and pricing will inevitably lead to the topic of costing. But that exposure does not make "students of marketing" the same as "students of management accounting." The latter may understand the importance of cost distortions, viewed through multiple lenses including ABC rather than solely through the narrower lens of volume-based cost allocations (if that level of detail is even addressed in the marketing or operations management course). The level of costing detail presented in a marketing course will differ from that of a management accounting course—in the same way that pricing in a

management accounting course is less comprehensive than it is in a marketing course. Accounting and marketing students require different levels of knowledge regarding the preparation and use of costing information. Students gain a deeper understanding of a topic when they learn it from a variety of perspectives. This is why businesses use cross-functional teams—no two disciplines understand or approach a problem from the same perspective.

There is considerable overlap across business disciplines in the area of data analytics. Some accountants have argued that management accounting should be taught in a data analytics course, but the same issues of faculty expertise, content depth, and focus arise as previously discussed. Data analytics is a tool for use across business disciplines. It should be integrated/applied to topics in various courses, such as personnel analyses in human resources courses, business performance analysis in management accounting courses, customer preference and market demand questions in marketing courses, horizon scanning and competitive responsiveness in strategy courses, and so on. It is appropriate to introduce analysis examples from various business disciplines as students learn data analysis techniques. But the discipline knowledge, when it is learned only in a data analytics course, is inadequate for the in-depth ability needed by majors in each business discipline. In particular, accounting students will not adequately learn management accounting topics in a data analytics course.

Management Accounting Course Content

As the accounting profession evolves, accountants must be prepared to add value to their organizations earlier in their careers. An in-depth management accounting competency is essential to adding value, and accountants—regardless of their career path—must be adequately prepared in the field of management accounting. It would be a disservice to future accountants, their organizations, and the public interest to disregard and eliminate the essential learning of management accounting that accounting graduates need.

Accounting programs must ensure that management accounting courses comprehensively impart the key value-adding management accounting competencies, which means focusing on much more than costing techniques. The field of management accounting has evolved tremendously in the last several decades. Early in their careers, accountants require competencies in areas such as strategy, revenue and profitability (not just costing) management, transformation of the finance function, professional ethics, and data analytics. An overemphasis on the instruction of costing methods will limit students' learning of other important topics and prevent students from integrating essential management accounting competencies with those obtained in other courses. •

Illustrative Management Accounting **Course Curriculum**

In order to adequately impart the essential management accounting competencies identified in this report, we believe that it is necessary that all accounting students take two management accounting courses: one at the introductory level and an additional one at the intermediate level. An advanced management accounting course elective would be desirable for accounting students planning to pursue a career outside of external audit or tax, or planning to sit for the CPA Business Analysis and Reporting (BAR) exam.

In Appendix 2, we offer illustrative content for the introductory, intermediate, and elective management accounting courses to comprehensively address the learning outcomes and objectives contained in Appendix 1. Some competencies can be introduced and mastered in a single course. Most competencies require exposure over multiple courses for students to achieve a sufficiently high level of mastery. In such instances, the content is suggested for inclusion in more than one course. In general, the competency would be introduced in the lower-level course and then reinforced and mastered in the higher-level course. In some cases, the introduction to a topic may have occurred in a course other than management accounting. Ultimately, the stated learning outcomes reflect the expected level of mastery upon completion of the most advanced course listed.

While some schools offer a "cost accounting" course as the intermediate management accounting course, the Task Force points out that this title does not reflect the needed content of a management accounting course for today's accounting students. As indicated by the breadth of recommended competencies in the intermediate course shown in Appendix 2, costing is a subset of managerial accounting competencies and does not encompass the broad range of management accounting competencies needed by professional accountants for the practice environment of the future. Accordingly, we suggest updating the name, content, or both of such courses to align with the recommendations contained in this report. •

APPENDIX 1: ESSENTIAL MANAGEMENT ACCOUNTING COMPETENCIES, LEARNING OUTCOMES, AND LEARNING OBJECTIVES FOR ALL ENTRY-LEVEL ACCOUNTANTS

STRATEGIC MANAGEMENT ACCOUNTING AND ANALYSIS

Strategic and Tactical Planning

Learning Outcomes	Learning Objectives
Evaluating strategic management plans	• Assess the alignment of strategies with the organizational mission, vision, and values • Examine the interdependencies among the operational, strategic, tactical, and contingency plans • Analyze the environmental, social, and governance (ESG) impact of operational, strategic, tactical, and contingency plans
Applying continuous improvement strategies to increase organization value	• Explain why continuous improvement is necessary for sustainable organizations • Identify appropriate change management strategies
Evaluating the strategic importance of a short-term vs. long-term perspective	• Differentiate between the purposes of short-term and long-term business and strategic decisions

Decision Analysis

Learning Outcomes	Learning Objectives
Identifying problems for decision making	• Recognize situations that require decision-making skills
Analyzing relevant information	• Gather relevant quantitative and qualitative information for analysis • Perform relevant analyses • Enhance analyses with relevant data analytics • Evaluate key assumptions and uncertainties • Apply professional ethics and values
Making decisions	• Formulate decisions using evidence-based judgment • Communicate recommendations
Monitoring past decisions	• Gather data to evaluate the results of past decisions

Budgeting and Forecasting	
Learning Outcomes	**Learning Objectives**
Evaluating the relationship of budgets and forecasts to strategic planning	• Critique the use of budgets and forecasts to facilitate communication, coordination, performance management, and alignment with organizational strategies • Prepare various types of investment and operating budgets and forecasts
Applying technology and data analytics in budgeting and forecasting	• Use data analytics and data visualization tools to create and enhance budgets and forecasts

Performance Management	
Learning Outcomes	**Learning Objectives**
Aligning performance management systems to support organizational strategy and operations	• Measure and control strategic implementation using relevant tools and techniques • Evaluate the alignment of performance measures with intended financial and nonfinancial outcomes • Compare and contrast the performance information needed for external reporting and internal decision making
Using performance management systems to sustain and improve organizational success	• Explain the issues associated with using financial accounting information for measuring performance • Analyze performance by comparing actual financial and nonfinancial results to relevant benchmarks • Use performance measurement results to recommend improvements to strategies and/or operations
Applying technology and analytics in performance management	• Use data analytics and data visualization tools to enhance performance management

REVENUE, COST, AND PROFITABILITY MANAGEMENT

Revenue Management	
Learning Outcomes	**Learning Objectives**
Evaluating revenue-generating models and practices	• Describe the organization's revenue-generating models • Describe organizational revenue management practices, including revenue levers and resources
Identifying opportunities for management accountants to enhance revenue management	• Use data analytics and data visualization tools to enhance revenue management • Apply management accounting tools to improve revenue management

Managerial Costing	
Learning Outcomes	**Learning Objectives**
Evaluating cost behavior	• Assess the reasonableness of cost behavior assumptions for specific costs • Critique the usefulness and reasonableness of a linear cost function for specific costs
Applying managerial costing methods	• Compare cost accounting practices for external financial accounting with managerial costing for internal decision support • Contrast the uses of traditional cost accounting methods • Explore the accounting system requirements and implications of managerial costing systems for internal decision support
Evaluating relevant costs for decision making	• Assess which costs are relevant for a given decision
Identifying how management accountants can improve cost information for internal decision support	• Describe organizational methods for improving cost management efficiency
Applying technology and analytics in cost management	• Use data analytics and data visualization tools to enhance cost management

Profitability Management	
Learning Outcomes	**Learning Objectives**
Evaluating profitability using relevant financial and nonfinancial information	• Analyze profit behavior in relation to the costs of various levels of operating activity • Consider appropriate nonfinancial information and qualitative factors when evaluating profitability
Evaluating relevant information for decision making and performance management	• Assess relevant information for a given decision • Analyze business segments for their contribution to organizational success from various perspectives
Applying technology and analytics in profitability management	• Use data analytics and data visualization tools to enhance profitability management

TECHNOLOGY, ANALYTICS, AND DATA MANAGEMENT

Management Information Systems

Learning Outcomes	Learning Objectives
Recognizing the value of information systems for competitive advantage	• Explain how information systems add value to an organization • Describe alternative types of data and data sources • Evaluate the quality of data generated by information systems

Data Governance

Learning Outcomes	Learning Objectives
Explaining data policies and procedures	• Explain how data governance enhances organizational value • Describe commonly used frameworks and practices for data governance, control, and risk management • Describe data through the various stages of the data life cycle

Data Analytics

Learning Outcomes	Learning Objectives
Applying data analytics	• Use digital technology to perform different types of analytics • Implement data science models to support operational and financial decisions • Apply analytics to proactively identify and avoid decision bias • Prepare appropriate visualizations to facilitate and communicate data analysis

Technology-Enabled Finance Transformation

Learning Outcomes	Learning Objectives
Applying technology-enabled finance transformation to support organizational strategy	• Explain the role of technology-enabled finance transformation initiatives in enabling strategic execution • Identify opportunities for management accountants to work with data scientists and/or information technology specialists to generate financial and nonfinancial information from a variety of data sources • Collaborate with information technology teams to assess and improve business processes

PROFESSIONAL ETHICS

Personal Ethics

Learning Outcomes	Learning Objectives
Adopting an ethical mindset	• Explain the importance of ethical behavior to the value added by management accountants • Exhibit a professional ethical mindset
Acting ethically	• Resolve potential conflicts among diverse ethical expectations • Engage in self-reflection and continuous improvement of ethical behavior

Organizational Ethics

Learning Outcomes	Learning Objectives
Encouraging an ethical organizational culture	• Recommend improvements to the organization's systems and controls over ethical standards and compliance • Collaborate with others to foster, clarify, and continuously improve the organizational ethical culture • Explain how controls prevent and detect fraudulent and unethical activities and errors

APPENDIX 2: EXAMPLE MANAGEMENT ACCOUNTING TOPICS BY COURSE

The following is a listing of candidate topics for possible inclusion in management accounting courses that directly address the competencies listed in Appendix 1.

STRATEGIC MANAGEMENT ACCOUNTING AND ANALYSIS

Strategic and Tactical Planning

Learning Outcomes	Learning Objectives	Introductory Course Topics (Required)	Intermediate Course Topics (Required)	Advanced Course Topics (Elective)
Evaluating various types of strategic management plans	Assess the alignment of strategies with the organizational mission, vision, and values		Mission, vision, and values	Organizational culture; strengths, weaknesses, opportunities, and threats analysis; Porter's Five Forces; political, economic, sociological, technological, legal, and environmental analysis
	Examine the interdependencies among the operational, strategic, tactical, and contingency plans	Operational, strategic, tactical, and contingency plans	Operational, strategic, tactical, and contingency plans; value chain analysis; supply chain analysis; CSFs	Strategy and management control systems; formal and informal systems; effectiveness and design of management control systems
	Analyze the ESG impact of operational, strategic, tactical, and contingency plans		Environmental concerns (e.g., impact on climate change, depletion of physical resources, waste management, risks from climate change); social concerns (e.g., diversity, human rights, consumer protection, animal rights); governance concerns (e.g., board of directors, management structure, executive vs. employee compensation); supply chain ESG considerations	Environmental and social performance and the balanced scorecard; managing environmental and sustainability costs

Learning Outcomes	Learning Objectives	Introductory Course Topics (Required)	Intermediate Course Topics (Required)	Advanced Course Topics (Elective)
Applying a continuous improvement mindset to increase organization value	Explain why continuous improvement is necessary for sustainable organizations		Continuous improvement; sustainable organization	Continuous improvement; sustainable organization
	Identify appropriate change management strategies		Change management; barriers to change	Change management process (e.g., purpose and change needed, leadership and teamwork, communication, training, barrier identification and removal, goals/milestones, project management); tools and techniques for continuous improvement (e.g., value engineering, kaizen, Lean management, life-cycle costing, Theory of Constraints, benchmarking, cross-functional improvement, etc.)
Evaluating the strategic importance of short-term vs. long-term perspectives	Differentiate between the purposes of short-term and long-term business and strategic decisions	Short-term and long-term decisions	Short-term and long-term decisions; strategy maps; balanced scorecard; short-term profitability vs. long-term growth; expectations of investors and other stakeholders	Short-term and long-term decisions; strategy maps; balanced scorecard; short-term profitability vs. long-term growth; expectations of investors and other stakeholders

Decision Analysis				
Learning Outcomes	**Learning Objectives**	**Introductory Course Topics (Required)**	**Intermediate Course Topics (Required)**	**Advanced Course Topics (Elective)**
Identifying problems for decision making	Recognize situations that require decision-making skills	Well-defined vs. open-ended problems, alternatives	Well-defined vs. open-ended problems, alternatives, decision maker(s), stakeholders	Well-defined vs. open-ended problems, alternatives, decision maker(s), stakeholders

Learning Outcomes	Learning Objectives	Introductory Course Topics (Required)	Intermediate Course Topics (Required)	Advanced Course Topics (Elective)
Analyzing relevant information	Gather relevant quantitative and qualitative information for analysis	Relevant quantitative and qualitative information	Availability and quality of relevant quantitative and qualitative information; ESG factors; risk management factors	Availability and quality of relevant quantitative and qualitative information; ESG factors; risk management factors
	Perform relevant analyses	Relevant analyses (e.g., costs and benefits, pros and cons)	Relevant analyses (e.g., costs and benefits, pros and cons, regression analysis, correlations, trends, net present value, sensitivity analysis, scenario analysis, what-if analysis)	Relevant analyses (e.g., costs and benefits, pros and cons, regression analysis, correlations, trends, net present value, sensitivity analysis, scenario analysis, what-if analysis)
	Enhance analyses with relevant data analytics	(See Technology, Analytics, and Data Management)	(See Technology, Analytics, and Data Management)	(See Technology, Analytics, and Data Management)
	Evaluate key assumptions and uncertainties	Assumptions (e.g., cost behavior)	Assumptions (e.g., cost behavior); conditional thinking (if-then); critical uncertainties; risks; limitations; trade-offs; potential bias	Types of bias, including implicit bias; cross-validation using prediction accuracy or maximum likelihood
	Apply professional ethics and values	Ethical and unethical business practices	Ethical behavior of management accountants; professional codes of conduct; ethical and unethical business practices	Ethical behavior of management accountants; professional codes of conduct; ethical and unethical business practices
Making decisions	Formulate decisions using evidence-based judgment	Apply decision criteria (e.g., benefit greater than cost)	Summarize results of analyses; apply decision criteria	Summarize results of analyses, key issues, and trade-offs; identify and apply decision criteria, risk tolerance
	Communicate recommendations	Stakeholder information needs	Stakeholder information needs; communication to diverse audiences	Persuasive data-driven written analysis and reports to various audiences for various financial and operational decisions
Monitoring past decisions	Gather data to evaluate the results of past decisions		Decision outcomes; variance analysis; performance measures	Need for decision monitoring; monitoring methods and measures

Budgeting and Forecasting				
Learning Outcomes	**Learning Objectives**	**Introductory Course Topics (Required)**	**Intermediate Course Topics (Required)**	**Advanced Course Topics (Elective)**
Evaluating the relationship of budgets and forecasts to strategic planning	Critique the use of budgets and forecasts to facilitate communication, coordination, performance management, and alignment with organizational strategies		Budgets (time-period budgets, etc.) related to forecasts and to organization strategy	Rolling budgets; life-cycle costing; participative budgeting; promoting coordination and communication; motivating managers and other employees using budgets; challenges in administering different kinds of budgets
	Prepare various types of investment and operating budgets and forecasts	Master budget; flexible budget	Master budget; flexible budget; rolling budget; short-term and long-term forecasts; capital budget; payback period; internal rate of return; net present value; time value of money; tax effects; human factors	Strategic considerations in capital budgeting (e.g., investment in research and development, customer value, capital budgeting)
Applying data analytics in budgeting and forecasting	Use data analytics and data visualization tools to create and enhance budgets and forecasts	(See Technology, Analytics, and Data Management)	(See Technology, Analytics, and Data Management)	(See Technology, Analytics, and Data Management)

Performance Management				
Learning Outcomes	**Learning Objectives**	**Introductory Course Topics (Required)**	**Intermediate Course Topics (Required)**	**Advanced Course Topics (Elective)**
Aligning performance management systems to support organizational strategy	Measure and control strategic implementation using relevant tools and techniques	Budgets and variances; responsibility accounting	Budgets and variances; responsibility accounting; management control systems; Simons's levers of control framework	Management control systems; Simons's levers of control framework; distinguishing the performance of managers from their subunits
	Evaluate the alignment of performance measures with intended financial and nonfinancial outcomes	Financial and nonfinancial performance measures/ metrics	Financial and nonfinancial performance measures/ metrics; CSFs; key performance indicators (KPIs); specific, measurable, achievable, relevant, and time-bound (SMART) criteria	Financial and nonfinancial performance measures/ metrics, CSFs, KPIs, SMART criteria

Learning Outcomes	Learning Objectives	Introductory Course Topics (Required)	Intermediate Course Topics (Required)	Advanced Course Topics (Elective)
	Compare and contrast the performance information needed for external reporting and internal decision making	Objectives of external reporting and the information needs of external stakeholders; objectives of internal reporting and the information needs of internal stakeholders	Objectives of external reporting and the information needs of external stakeholders; objectives of internal reporting and the information needs of internal stakeholders	Objectives of external reporting and the information needs of external stakeholders; objectives of internal reporting and the information needs of internal stakeholders; information needs of for-profit, not-for-profit, and governmental entities
Using performance management systems to sustain and improve organizational success	Explain the issues associated with using financial accounting information for measuring performance	Historical cost accounting; cost allocation; principles of return on investment (ROI); residual income (RI), and Economic Value Added® (EVA)	Historical cost accounting; cost allocation; segment reporting; responsibility accounting; ROI, RI, and EVA	Transfer pricing, decentralization, management control systems and multinational considerations for determining transfer prices; guidelines for transfer pricing situations; ROI, RI, and EVA
	Analyze performance by comparing actual financial and nonfinancial results to relevant benchmarks	Benchmarks; variance analysis	External and internal benchmarks; variance analysis; financial and nonfinancial results; diagnostic control systems; gap analysis	
	Use performance measurement results to recommend improvements to strategies and/or operations		Interpret results of performance measures/metrics; gap analysis; external and internal factors	Use results of performance measures/metrics to recommend improvements to strategies and/or operations; value stream maps
Applying technology and analytics in performance management	Use data analytics and data visualization tools to enhance performance management	(See Technology, Analytics, and Data Management)	(See Technology, Analytics, and Data Management)	(See Technology, Analytics, and Data Management)

REVENUE, COST, AND PROFITABILITY MANAGEMENT

Revevnue Management

Learning Outcomes	Learning Objectives	Introductory Course Topics (Required)	Intermediate Course Topics (Required)	Advanced Course Topics (Elective)
Evaluating revenue-generating models and practices	Describe the organization's revenue-generating models	Revenue streams (e.g., sale of goods, sale of services, licenses, commissions, rents, interest)	Revenue streams (e.g., sale of goods, sale of services, licenses, commissions, rents, interest); organizational skills and abilities; customer needs; value creation and delivery; customer payment cycle; industry revenue model characteristics	
	Describe organizational revenue management practices, including revenue levers and resources	Pricing basis	Revenue levers (pricing basis, inventory allocation, product configuration, and management of variability across time); value chain analysis; supply chain analysis; resources available for revenue management	
Identifying opportunities for management accountants to enhance revenue management	Use data analytics and data visualization tools to enhance revenue management	(See Technology, Analytics, and Data Management)	(See Technology, Analytics, and Data Management)	(See Technology, Analytics, and Data Management)
	Apply management accounting tools to improve revenue management	Financial sales data; revenue variance analysis; accounts receivable turnover	Financial sales data; nonfinancial customer and market data; revenue variance analysis; accounts receivable turnover; customer profitability analysis; activity-based management	Financial sales data; nonfinancial customer and market data; revenue variance analysis; accounts receivable turnover; customer profitability analysis; value pricing; capacity analysis; activity-based management; analysis of revenue behavior and causality; revenue driver analysis; scenario planning; time series/trend analysis

Managerial Costing				
Learning Outcomes	**Learning Objectives**	**Introductory Course Topics (Required)**	**Intermediate Course Topics (Required)**	**Advanced Course Topics (Elective)**
Evaluating cost behavior	Assess the reasonableness of cost behavior assumptions for specific costs	Resource capacity; cost behavior assumptions; fixed costs; variable costs; product costs; period costs; traceability; direct costs; indirect costs	Cost behavior assumptions; fixed costs; variable costs; product costs; period costs; traceability; direct costs; indirect costs; conversion costs; overhead costs; mixed or semivariable costs; step costs; incremental costs; economies of scale	
	Critique the usefulness and reasonableness of a linear cost function for specific costs		Linear cost function, cost pool, cost driver, relevant range; changes in the internal and external business environment	
Applying costing methods	Compare costing practices for financial accounting with those for internal decision support	Cost accounting: standards for recording costs as assets and expenses (e.g., inventory and cost of goods sold); Managerial costing: IMA Conceptual Framework for Managerial Costing, causality principle, relevant costs for a given purpose (cost management, performance management, decision making, etc.)	Financial accounting: standards for recording costs as assets and expenses (e.g., inventory and cost of goods sold); Managerial costing: IMA Conceptual Framework for Managerial Costing, causality principle, relevant costs for a given purpose (cost management, performance management, decision making, etc.)	Target costing, cost of quality, "should" costing
	Contrast the uses of traditional cost accounting methods	Allocation of costs (cost pool, allocation base, over-/under-applied cost); absorption costing; standard costing; job costing	Allocation of costs (cost pool, allocation base, over-/under-applied cost); absorption costing; standard costing; job costing; actual and normal costing	Process costing; support cost allocation (direct method, step-down method, reciprocal method)

Learning Outcomes	Learning Objectives	Introductory Course Topics (Required)	Intermediate Course Topics (Required)	Advanced Course Topics (Elective)
	Explore the accounting system requirements and implications of managerial costing systems for internal decision support	Direct costing; variable costing; ABC	Accounting system requirements for different costing methods; operational implications of different costing methods; direct costing; variable costing; ABC, time-driven ABC	Accounting system requirements for different costing methods; operational implications of different costing methods; throughput costing; predictive accounting; resource consumption accounting; event-driven ABC
Evaluating relevant costs for decision making	Assess which costs are relevant for a given decision	Product and service cost; marginal cost	Product and service cost; opportunity cost; sunk cost; marginal cost; discretionary cost; cost reduction from economies of scale; customer cost-to-serve	
Identifying how management accountants can improve cost information for internal decision support	Describe organizational methods for improving cost management efficiency		Production efficiency (e.g., spoilage, rework, and scrap); resource and capacity management; operations and logistics management; Just-in-Time; Lean accounting; kaizen	Accurate cost planning; production efficiency (e.g., spoilage, rework, and scrap); cost control; business process controls; economic order quantity; critical performance variables; diagnostic controls; resource and capacity management; operations and logistics management; Just-in-Time; Lean accounting; kaizen
Applying technology and analytics in cost management	Use data analytics and data visualization tools to enhance cost management	(See Technology, Analytics, and Data Management)	(See Technology, Analytics, and Data Management)	(See Technology, Analytics, and Data Management)

Profitability Management				
Learning Outcomes	**Learning Objectives**	**Introductory Course Topics (Required)**	**Intermediate Course Topics (Required)**	**Advanced Course Topics (Elective)**
Evaluating profitability using relevant financial and nonfinancial information	Analyze profit behavior in relation to the costs of various levels of operating activity	Cost-volume-profit (CVP) analysis; breakeven point; margin of safety; degree of operating leverage	CVP analysis; breakeven point; margin of safety; degree of operating leverage	
	Consider appropriate nonfinancial information and qualitative factors when evaluating profitability		Qualitative factors (e.g., ESG, organizational values and culture, long-term vs. short-term perspective, brand reputation, employee morale, product quality, time constraints, constrained resources)	
Evaluating relevant information for decision making and performance management	Assess relevant information for a given decision	Incremental revenue; relevant costs	Causal analysis; incremental revenue; relevant costs (see Cost Management); decision quality (e.g., business risk, information timeliness, reasonableness of assumptions, strategic alignment, sensitivity analysis) Common types of decisions: special order decisions; keep or drop decisions; insource or outsource decisions; product mix decisions; product emphasis decisions	
	Analyze business segments for their contribution to organizational success from various perspectives	Responsibility accounting; responsibility centers	Responsibility accounting; responsibility centers	Transfer pricing
Applying technology and analytics in profitability management	Use data analytics and data visualization tools to enhance profitability management	(See Technology, Analytics, and Data Management)	(See Technology, Analytics, and Data Management)	(See Technology, Analytics, and Data Management)

TECHNOLOGY, ANALYTICS, AND DATA MANAGEMENT

Management Information Systems

Learning Outcomes	Learning Objectives	Introductory Course Topics (Required)	Intermediate Course Topics (Required)	Advanced Course Topics (Elective)
Recognizing the value of information systems for competitive advantage	Explain how information systems add value to an organization	Information for decision making, planning, and performance management (organization, segments, functions, individuals, etc.)	Information for decision making, planning, and performance management (organization, segments, functions, individuals, etc.); information users and stakeholders (internal and external); data conversion into information; accounting information systems	Business intelligence; business process performance and controls
	Describe alternative types of data and data sources	Data sources (e.g., transaction processing, accounting, production)	Data types (e.g., monetary, nonmonetary; numeric, nonnumeric; continuous, categorical; text, survey, audio, video, images, click-through, biometric, etc.); data sources (e.g., transaction processing, accounting, production, marketing, customer service, human resources, decision support, strategic management, web servers, security systems, satellites, etc.)	Data types (e.g., monetary, nonmonetary; numeric, nonnumeric; continuous, categorical; text, survey, audio, video, images, click-through, biometric, etc.); data sources (e.g., transaction processing, accounting, production, marketing, customer service, human resources, decision support, strategic management, web servers, security systems, satellites, etc.)
	Evaluate the quality of data generated by information systems	Data relevance; data usefulness	Data quality criteria (e.g., accuracy, reliability, relevance, usefulness, consistency, standardization, completeness, timeliness, unbiased, accessibility, etc.), internal controls; business process controls; data extraction, cleaning, restructuring	Data quality criteria (e.g., accuracy, reliability, relevance, usefulness, consistency, standardization, completeness, timeliness, unbiased, accessibility, etc.); internal controls; business process controls; data extraction, cleaning, restructuring

Data Governance				
Learning Outcomes	**Learning Objectives**	**Introductory Course Topics (Required)**	**Intermediate Course Topics (Required)**	**Advanced Course Topics (Elective)**
Explaining data policies and procedures	Explain how data governance enhances organizational value	Segregation of duties, transaction and activity reviews	Categories of internal controls: segregation of duties, physical controls, reconciliations, policies and procedures, transaction and activity reviews	Data governance, organizational value from data governance (e.g., data processes; controls; regulatory, legal, and organizational compliance; systems reliability and security; data quality); categories of internal controls: segregation of duties, physical controls, reconciliations, policies and procedures, transaction and activity reviews, information processing controls; customer management; vendor/supplier management; business continuity planning
	Describe commonly used frameworks and practices for data governance, control, and risk management	Risk mitigation	Risk mitigation; cybersecurity	Frameworks for data governance, control, and risk management (e.g., Committee of Sponsoring Organizations of the Treadway Commission, Control Objectives for Information and Related Technology, Information Technology Infrastructure Library); cybersecurity; risk mitigation; internal audit of controls over data; processes for system changes and maintenance; data process tools and algorithms (e.g., data extraction, cleaning, and restructuring)
	Describe data through the various stages of the data life cycle	Record retention	Stages in the data life cycle; data capture to data purging; data conversion to information; system changes and maintenance	Stages in the data life cycle; data capture to data purging; data conversion to information; system changes and maintenance

Data Analytics				
Learning Outcomes	**Learning Objectives**	**Introductory Course Topics (Required)**	**Intermediate Course Topics (Required)**	**Advanced Course Topics (Elective)**
Applying data analytics	Use digital technology to perform different types of analytics	Descriptive analytics	Descriptive analytics; diagnostic analytics	Analytical maturity model (descriptive analytics, diagnostic analytics, predictive analytics, and prescriptive analytics)
	Implement data science models to support operational and financial decisions	Data relationships	Information modeling; data model inputs; logical relationships; cause-and-effect relationships	Information modeling; AI, relevant algorithms; data relationships; data model inputs; data model evaluation tools (e.g., magnitude of the likelihood values, feature variables, false positive rate, confusion matrix classifications, payoff matrix); logical relationships; cause-and-effect relationships; efficiency and effectiveness of operating activities
	Apply analytics to proactively identify and avoid decision bias		Types of decision bias	Types of decision bias (including implicit bias); cross-validation using prediction accuracy or maximum likelihood; holdout samples using full and pruned decision tree
	Prepare appropriate visualizations to facilitate and communicate data analysis	Descriptive statistics	Data analysis communication; dashboards; charts, graphs, tables, histograms, and heat maps; scatterplots; misleading visuals; descriptive statistics; time series; correlations, patterns, trends, and anomalies; visualization tools	Data analysis communication; dashboards; charts, graphs, tables, histograms, and heat maps; scatterplots; misleading visuals; descriptive statistics; time series; correlations, patterns, trends, and anomalies; visualization tools

Technology-Enabled Finance Transformation				
Learning Outcomes	**Learning Objectives**	**Introductory Course Topics (Required)**	**Intermediate Course Topics (Required)**	**Advanced Course Topics (Elective)**
Applying technology-enabled finance transformation to support organizational strategy	Explain the role of technology-enabled finance transformation initiatives in enabling strategic execution		Business process automation (e.g., robotic process automation (RPA), Alteryx, Microsoft Excel Visual Basic for Applications (VBA) macros)	Business process automation (e.g., RPA, Alteryx, Microsoft Excel VBA macros); process efficiency; business partnering; change management; continuous improvement; value-added skill development; analytics-based forecasting; integration of information systems; quality of data and information; model building
	Identify opportunities for management accountants to work with data scientists and/or information technology specialists to generate financial and nonfinancial information from a variety of data sources		Financial and nonfinancial information for a given purpose (e.g., strategies, operations, tactics, internal processes, risks, opportunities, external environment, performance management, supply chain, customer relationship, external reporting, internal reporting, data analytics, AI, etc.), data availability and quality	Terminology and concepts for working with data scientists and/or information specialists (e.g., math and statistics, inference, computer science and data skills, data algorithms and models, decision trees, pruning, data mining)
	Collaborate with information technology teams to assess and improve business processes		Cross-functional collaboration	Cross-functional collaboration; partnering between management accounting and IT; strategic and operational requirements; hardware and software configurations; development, testing, implementation, documentation, and assessment; systems development life cycle (SDLC) approaches (waterfall model, Agile approaches such as the Scrum Framework)

PROFESSIONAL ETHICS

Personal Ethics				
Learning Outcomes	**Learning Objectives**	**Introductory Course Topics (Required)**	**Intermediate Course Topics (Required)**	**Advanced Course Topics (Elective)**
Adopting an ethical mindset	Explain the importance of ethical behavior to the value added by management accountants	Ethical behavior of management accountants; professional codes of conduct	Ethical behavior of management accountants; professional codes of conduct	Ethical behavior of management accountants; professional codes of conduct
	Exhibit a professional ethical mindset	Independent frame of mind; competence; confidentiality; integrity; credibility; skepticism	Independent frame of mind; competence; confidentiality; integrity; credibility; skepticism	Independent frame of mind; competence; confidentiality; integrity; credibility; skepticism
Acting ethically	Resolve potential conflicts among diverse ethical expectations		Whistleblowing	Conflict resolution strategies; whistleblowing
	Engage in self-reflection and continuous improvement of ethical behavior	Self-management; reflection on the ethics of past behavior; skepticism and questioning mindset about ethical behavior	Self-management; reflection on the ethics of past behavior; skepticism and questioning mindset about ethical behavior	Self-management; reflection on the ethics of past behavior; skepticism and questioning mindset about ethical behavior

Organizational Ethics				
Learning Outcomes	**Learning Objectives**	**Introductory Course Topics (Required)**	**Intermediate Course Topics (Required)**	**Advanced Course Topics (Elective)**
Encouraging an ethical organizational culture	Recommend improvements to the organization's systems and controls over ethical standards and compliance	Ethical and unethical business practices; ethical and behavioral consequences of various budgeting approaches	Ethical and unethical business practices; Simons's levers of control (boundary systems, belief systems)	Ethical and unethical business practices; Simons's levers of control (boundary systems, belief systems)
	Collaborate with others to foster, clarify, and continuously improve the organizational ethical culture		Cross-functional and cultural collaboration for ethical behavior	Cross-functional and cultural collaboration for ethical behavior
	Explain how controls prevent and detect fraudulent and unethical activities and errors	Fraudulent and unethical activities	Fraudulent and unethical activities; fraud triangle	Fraudulent and unethical activities; fraud triangle; segregation of duties; internal controls for information systems (e.g., preventive, detective, and corrective); cybersecurity; process documentation; risk assessment and mitigation; vendor management; unintended consequences of performance measures

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