

certified investment management analyst

 $\textit{CERTIFIED INVESTMENT MANAGEMENT ANALYST}^{\circledast}$

CIMA®

IMCA

investment management consultants association

Candidate Handbook

Valid January 2017

Contents

About Investment Management Consultants Association® (IMCA®)

Investment Management Consultants Association (IMCA) was established in 1985 to deliver the premier investment consulting and wealth management credentials, and world-class educational offerings through membership, conferences, research, and publications. IMCA sets the standards for the investment management consulting profession and provides investment consultants with the credentials and tools required to best serve their clients.

Since 1988, IMCA has been authorizing the use of Certified Investment Management Analyst® or CIMA® certification to experienced financial consultants who successfully complete the CIMA certification program and meet other certification requirements.

The CIMA professional is one who provides investment advice and guidance to individuals and institutions. This professional integrates a body of investment knowledge and applies it to specific client needs. The CIMA advisor uses investment theory to assist clients in making prudent investment choices.

About the Certification Commission

The Certification Commission is an autonomous volunteer committee authorized by the IMCA Board of Directors and charged with the development and maintenance of IMCA certification programs. The committee is responsible for setting the initial and ongoing requirements that candidates and certificants must meet in order to earn and maintain the rights to use the CIMA certification.

Independent Testing Agency

IMCA has contracted with AMP, a PSI business, to assist in the development, administration, scoring, and analysis of the CIMA certification program's Qualification and Certification Examinations.

Nondiscrimination Policy

IMCA and PSI/AMP do not discriminate among candidates on the basis of race, color, creed, gender, religion, national origin, disability, marital status, or any other characteristic protected by law.

The CIMA Certification Program

The CIMA certification program requires that candidates meet all eligibility requirements, pass a Qualification Examination, successfully complete an education program, pass a Certification Examination, sign a license agreement and satisfy ongoing renewal requirements.

All candidates must:

- Complete and submit an application that includes a disclosure form, which will result in a background check conducted by IMCA's legal staff.
- Remit the appropriate fee (see Fee Schedule for current fees: www.IMCA.org/pages/application-fees) with the application.

The application is valid for two years from the date it is accepted by IMCA. The application is reviewed to verify that the applicant meets the program requirements. Applicants will either be accepted into, or denied from, the program.

- Pass a Qualification Examination. A candidate may sit for this examination as often as necessary, but retesting fees (see Fee Schedule for current fees: www.IMCA.org/pages/application-fees) apply and there is a 30-day waiting period between tests. If a candidate does not pass the Qualification Examination within two years of submitting an application, the application will expire and the candidate must reapply to the program, including payment of fees.
- Select a Registered Education Provider and register for a class with that educational provider, after passing the Qualification Examination. Details about Registered Education Providers' programs can be found online at www.IMCA.org/pages/registered-educationproviders. Fees are set by and payable to the education providers. Education providers notify IMCA of candidates who have successfully completed their education program.
- Pass the Certification Examination, after successfully completing
 the education component. The Certification Examination is administered during testing windows four times per year (February, May,
 August and November) online at local testing centers.
- Demonstrate a minimum of three (3) full years of professional experience in financial services or related industry.
- Be subject to a second background check, sign and submit a license agreement and agree to adhere to IMCA's Code of Professional Responsibility and Rules and Guidelines for the Use of the Marks.

Eligibility Appeals

Applicants can appeal a denial into the CIMA certification program through the Admissions Appeals Process as follows:

IMCA Legal Staff will notify the Applicant of the Appeal Process in its notice of application denial.

Appeal Process

- O If the application is not accepted due to a pending matter, the applicant will be invited to reapply when the matter is resolved. There is no appeal to this decision.
- O If the application is not accepted for any other reason, the applicant will be notified of the following appeal process:
 - The applicant has 60 days from the date of non-acceptance to notify IMCA staff of their desire to appeal the decision (Notice of Appeal);
 - The applicant has 30 days after Notice of Appeal to provide an explanation as to why an appeal should be considered as well as any new and/or additional information that should be considered; Ruling on the appeal must occur within 60 days of receipt of the complete Appeal;
 - The ruling on the Appeal is final;
 - If the initial ruling is upheld, the applicant is eligible to reapply in two (2) years from the date of the initial ruling.

Examination Administration

Qualification and Certification Examinations are delivered by computer at more than 290 locations in PSI/AMP's Assessment Center Network throughout the world. There are no application deadlines and a candidate may submit an application for the program, register for the Qualification Examination, register for the Certification Examination, and pay the fees at any time upon meeting prerequisites.

Examinations are administered by appointment only Monday through Friday, and at least one Saturday per month at all U.S. locations at 9 a.m. and 1:30 p.m. local time. Available dates will be provided when a candidate schedules an examination. For international locations, including U.S. territories and Canada, information on examination start times will be provided in a scheduling email. All candidates are scheduled on a first-come, first-served basis. The first-time Qualification and Certification Examination fees are included in the CIMA certification program application fee. An additional fee is charged for each retest.

IMCA will provide each Registered Education Provider a list of candidates who have passed the Qualification Examination, except for those candidates who have elected to opt out of their information being shared.

Certification Examination

Certification Examinations are administered during four testing windows per year – February, May, August and November – at more than 290 PSI/AMP testing centers worldwide by appointment only. Available dates will be provided when a candidate schedules an examination by contacting PSI/AMP at 1-888-519-9901 or at www.goAMP.com for U.S. candidates and at AMPIntlExamServices@goAMP.com for international candidates. Candidates are scheduled on a first-come, first-served basis (see Fee Schedule for current fees: www.IMCA.org/cima-application-fees).

Scheduling an Examination in the U.S.

Once eligibility has been confirmed by IMCA, PSI/AMP will send U.S. candidates a postcard and email with a telephone number and a website for use in scheduling an examination appointment. The email will be sent only if an email address has been provided.

Candidates may visit the PSI/AMP website at <u>www.goAMP.com</u> and click on 'Candidates'. Candidates should follow the prompts on the website to schedule the examination appointment.

Candidates may also call PSI/AMP at 888-519-9901 to schedule an examination appointment. This toll-free number is answered from 7 a.m. to 9 p.m. (Central Time) Monday through Thursday, 7 a.m. to 7 p.m. on Friday, and 8:30 a.m. to 5 p.m. on Saturday.

When scheduling an examination, candidates should be prepared to confirm a location and a preferred date and time for testing. Candi-

dates are told the date and time of the examination when they call or schedule an examination online. If candidates provide an email address, they will receive an email confirmation of the appointment.

If you contact PSI/AMP by 3:00 p.m. Central Time on	Depending on availability, your examination may be scheduled as early as
Monday	Wednesday
Tuesday	Thursday
Wednesday	Friday/Saturday
Thursday	Monday
Friday	Tuesday

If special accommodations are required, candidates must complete the two-page *Request for Special Examination Accommodations* form included in this handbook and submit it to PSI/AMP after their application has been accepted and at least 45 days prior to the desired examination date.

Scheduling an International Examination

Once IMCA has confirmed a candidate's eligibility, the candidate should email the following information to <u>AMPIntlExamServices@</u>
goAMP.com

- 1. First and Last Name as provided on your application
- 2. Preferred email address
- 3. Examination name CIMA Qualification or Certification Exam
- Preferred Assessment Center location from the list of international testing centers on the IMCA examination page of www.qoAMP.com
- 5. Three test dates you are available to test, in order of preference.

Submit this information approximately two to four weeks prior to your requested test dates. Email correspondence confirming that PSI/AMP has received the request will be sent within two to three business days. PSI/AMP will verify availability at a testing location and email the candidate once a date has been confirmed.

Rescheduling an Examination

Examination fees are nonrefundable. A candidate who is unable to test as scheduled may opt to reschedule.

All candidates may reschedule the examination once at no charge.
 U.S. candidates should call PSI/AMP at 888-519-9901 at least two (2)
 days prior to a scheduled examination. Candidates testing outside
 of the U.S. should email <u>AMPIntIExamServices@goAMP.com</u> at
 least two (2) business days prior to a scheduled examination with a
 request to reschedule. The following schedule applies to all candidates seeking to reschedule an examination:

If the examination is scheduled on	PSI/AMP must be contacted by 3 p.m Central Time to reschedule the examination by the previous	
Monday	Wednesday	
Tuesday	Thursday	
Wednesday	Friday	
Thursday	Monday	
Friday/Saturday	Tuesday	

A candidate who wishes to reschedule a second time, who appears
more than 15 minutes late for an examination and cannot be
admitted, or who fails to report for the scheduled examination
must contact IMCA to give notice of their intention, pay an examination fee, and then schedule a date with PSI/AMP.

Missed Appointments and Forfeitures

All candidates will forfeit the examination registration and all related fees paid to take the examination under the following circumstances.

- The candidate wishes to reschedule an examination but fails to contact PSI/AMP at least **two business days** prior to the scheduled testing session;
- The candidate wishes to reschedule a second time;
- The candidate appears more than 15 minutes late for an examination: or,
- The candidate fails to report for an examination appointment.

Candidates must contact IMCA to give notice of their intention, pay an examination fee, and then schedule an examination date with PSI/AMP to re-register.

A written explanation of extenuating circumstances may be submitted for special consideration by IMCA. Please email such requests to IMCA at **certification@IMCA.org**.

Inclement Weather, Power Failure or Emergency

In the event of inclement weather or unforeseen emergencies on the day of an examination, PSI/AMP will determine whether circumstances warrant the cancellation, and subsequent rescheduling, of an examination. The examination will usually not be rescheduled if the Assessment Center personnel are able to open the Assessment Center.

Candidates may visit PSI/AMP's website at <u>www.goAMP.com</u> prior to the examination to determine if PSI/AMP has been advised that any U.S. Assessment Centers are closed. Every attempt is made to administer the examination as scheduled; however, should an examination be

cancelled all scheduled candidates will receive notification regarding rescheduling or reapplication procedures.

If power to an Assessment Center is temporarily interrupted during an administration, the examination will be restarted. The responses provided up to the point of interruption will remain intact but for security reasons the questions will be scrambled.

Assessment Center Locations

PSI/AMP Assessment Centers have been selected to provide accessibility to the most candidates in all states and Canadian Provinces in major metropolitan areas. Domestic PSI/AMP Assessment Centers are typically located in H&R Block offices. A current listing of PSI/AMP Assessment Centers, including addresses and driving directions, may be viewed at thte PSI/AMP website located at www.goAMP.com. Specific address information will be provided when a candidate schedules an examination appointment. For information regarding the availability of international Assessment Centers, choose the "Locate Testing Center" tab on the IMCA examination page of www.goAMP.com. International testing administrations require a minimum of three weeks to confirm.

Special Arrangements for Candidates with Disabilities

IMCA and PSI/AMP comply with the Americans with Disabilities Act and strive to ensure that no individual with a disability is deprived of the opportunity to take the examination solely by reason of that disability. PSI/AMP will provide reasonable accommodations for candidates with disabilities.

Wheelchair access is available at all Assessment Centers. Candidates with visual, sensory, or physical disabilities that would prevent them from taking the examination under standard conditions may request special accommodations and arrangements. To request special accommodations, complete the *Request for Special Examination Accommodations* and *Documentation of Disability* forms included in this handbook and submit the completed forms. Please inform PSI/ AMP of your need for special accommodations when scheduling your examination.

About the Examinations

The CIMA certification program includes two examinations, the Qualification Examination and the Certification Examination. The Qualification Examination is a two-hour examination and has 50 multiple-choice questions and 10 non-scored, pretest questions. The Certification Examination is a four-hour examination and has 100 multiple-choice questions and 10 non-scored, pretest questions.

Each examination item (question) is related to an area of work performed by an investment management consultant. The tasks have been identified through a job analysis. All examination items are written in a four-option, multiple-choice format.

Several examination item types are incorporated into the examinations. These include:

- One Best Response
- Direct Question
- Incomplete Statement
- Complex Multiple-Choice
- Situational Set

The examination items test the candidate's knowledge and skills at various levels, including recall, application, and analysis.

- Recall items test the recognition of and remembering specific facts, generalizations, theories, and principles.
- Application items test interpretation or application of data. They
 often include calculations or other problem-solving and require
 identification of the components and relationships among data.
- Analysis items test the evaluation of data and problem-solving. They typically require judgment about the best course of action.

Learning Objectives

The topics included in the following table have been derived from a job analysis survey of knowledge and skills needed by CIMA professionals to fulfill work requirements. The topics are subject to testing in the CIMA certification program examinations and should be covered by Registered Education Programs.

The numbers and percentages listed beside the topics below indicate the percentage of examination items devoted to the topic category.

Qualification and Certification Examinations—Detailed Content Outline

I. GOVERNANCE

(Qualification 4%) (Certification 7%)

A. IMCA Code of Professional Responsibility

(Qualification 2%) (Certification 5%)

- 1. Serve the financial interests of all clients
- 2. Disclose fully to clients services provided and compensation received
- 3. Provide to clients all material information related to the investment decision-making process as well as other information they may need to make informed decisions based on realistic expectations
- 4. Maintain the confidentiality of all information entrusted by the client to the fullest extent permitted by regulatory and legal entities in conjunction with the professional's firm/company policy
- 5. Comply fully with all statutory and regulatory requirements affecting the delivery of investment consulting services to clients
- 6. Maintain competency in investment management consulting and financial services through education and training to better serve clients and enhance investment management consulting
- 7. Maintain a high level of professional ethical conduct

B. Regulatory Considerations

(Qualification 2%) (Certification 2%)

- 1. Define fiduciary responsibilities including the principal-agent relationship for:
 - individuals
- endowments
- trusts
- ERISA plan clients
- foundations
- 2. Identify circumstances that may cause a person to be identified as a fiduciary
- 3. Comply with laws and regulations:
 - ERISA

• international, federal, and state

UPIA regulatory agencies

- UPMIFA
- 4. Identify prohibited transactions under applicable legislation (e.g.,

II. FUNDAMENTALS

(Qualification 16%) (Certification 16%) (Qualification 8%) (Certification 4%)

- A. Statistics and Methods
 - 1. Apply statistical concepts 2. Analyze and interpret data:
 - normal and non-normal distributions
 - data tables
- graphs
- 3. Differentiate between measures of central tendency
- 4. Describe and differentiate between measures of dispersion:
 - range
- semi-variance
- absolute deviation
- semi-deviation
- variance
- coefficient of variation
- standard deviation
- 5. Apply probability concepts:
 - probability
- · variance
- expected value
- 6. Analyze and interpret hypothesis testing using probabilistic methodologies and models (e.g., Monte Carlo simulation)
- 7. Analyze correlation, regression, and multiple regression
 - a) correlation analysis:
 - scatterplots
- · correlation coefficient
- b) linear regression:
 - independent and dependent variables
 - standard error
- coefficient of determination
- hypothesis testing
- prediction intervals

- c) multiple regression analysis:
 - Multiple Linear Regression Model
 - R2 • randomness
- serial correlation
- multi-collinearity
- heteroskedasticity
- 8. Interpret data analysis (e.g., trend, time-series) a) trend models
 - b) mean reversion
 - c) multi-period forecast
 - d) regression coefficients
 - e) random walk
 - f) smoothing past values with an n-period moving average
 - g) seasonality

B. Applied Finance and Economics (Qualification 4%) (Certification 7%)

- 1. Calculate time value of money
 - a) present and future value (e.g., annuity and variable cash flows)
 - b) methods of compounding
 - c) nominal and effective rates of interest
 - d) discounted cash flows
 - e) net present value and internal rate of return
 - f) rates, number of periods, payments, or prices
 - g) interest rates and discounts rates
- 2. Differentiate between major areas of economic thought including John Maynard Keynes and Milton Freidman
- 3. Explain economic concepts and principles
 - a) principles of supply and demand and shifts of each
 - b) concept of equilibrium through graphical representation
 - c) micro and macro-economic theory
- 4. Describe the U.S. monetary system
 - a) impact of monetary and fiscal policy
 - b) concept of the velocity of money
 - c) role of central banks
 - d) determination of interest rates (e.g., differentiate between policy rates and market rates)
 - e) nominal and real rates
 - f) yield spreads and the yield curve
- 5. Describe stages of a business/economic cycle
 - a) stages of a business/economic cycle
 - b) monetary and fiscal policy affecting business cycles, the economy, and financial markets
 - c) inflation, deflation, reflation, stagflation, and disinflation and their location within the business/economic cycle
 - d) business cycle dating
- 6. Interpret macroeconomic measurements
 - a) leading economic indicators:
 - stock market
- construction permits
- b) coincident economic indicators:
 - industrial production retail sales
- c) lagging economic indicators:
 - duration of unemployment
 - consumer credit outstanding relative to personal income
- d) price level indicators:
 - PPI CPI
- GDP deflator
- 7. Interpret demographic effects on economies: aging of population
 - immigration
- 8. Describe global economics, theory, and trade
 - a) comparative and absolute advantage
 - b) balance of payments
 - c) roles of the International Monetary Fund (IMF), the World Bank, and the World Trade Organization (WTO)

- 9. Explain:
 - current global exchange rate system
 - spot and forward exchange rates
 - dollarization
- fixed rates vs. floating rates
- currency pegs
- special drawing rights (SDRs)
- C. Global Capital Markets History and Valuation

(Qualification 4%) (Certification 5%)

- 1. Describe interest rates and inflation in developed and emerging markets including the history of government and corporate defaults in the U.S., Europe, and emerging markets
- 2. Describe equity valuation in developed and emerging markets
 - a) cyclical and secular bull and bear markets
 - b) extremes of equity valuation over time in the U.S.
 - c) equity valuations within various secular market cycles
- 3. Describe equity and fixed income returns for developed and emerging markets
 - historical equity and fixed income returns for secular market cycles
 - b) secular and cyclical equity market cycles to macro- economic
 - c) methods for developing equity and fixed income expectations:using growth and ratesvaluation
 - d) historical correlations of equities, fixed income, and alternatives

III. PORTFOLIO PERFORMANCE and RISK MEASUREMENTS

(Qualification 20%) (Certification 22%)

A. Attributes of Risk (Qualification 4%) (Certification 2%)

- 1. Differentiate between the concepts of risk and uncertainty
- 2. Identify types of risk:
 - loss of principal
- sovereign
- purchasing power
- interest rate
- liquidity
- credit
- geo-political
- reinvestment
- currency
- 3. Compare the ability, willingness, and/or need to assume risk (risk tolerance)

B. Risk Measurements

(Qualification 4%) (Certification 7%)

- 1. Define volatility measurements
 - a) standard deviation
 - b) variance
 - c) covariance
- 2. Differentiate between volatility and downside risk
- 3. Quantify tail risk both statistically and historically
- 4. Analyze systematic risk (beta) and non-systematic risk (idiosyncratic)

C. Performance Measurement and Attribution

(Qualification 12%) (Certification 13%)

- 1. Calculate investment returns
 - a) components of return:
 - income
- capital appreciation
- b) absolute and relative performance
- c) rolling-period returns compared with annual returns
- d) time-weighted and dollar-weighted rates of return
- e) arithmetic and geometric average returns
- Analyze risk-adjusted measures using strengths and weaknesses of different types of analysis:
 - alpha
- omega
- R2 coefficient
- Jensen's alpha (CAPM)
- Sharpe ratio
- Treynor ratio
- M2 ratio
- information ratio
- Sortino ratio

- 3. Determine benchmarks
 - a) measuring individual managers, including:
 - normal portfolio analysis
- investment style
- performance attribution analysis R² analysis
- b) advantages and disadvantages of using indexes as benchmarks (including tracking error)
- c) attributes of an effective benchmark:
 - transparency
- replicability
- d) advantages and disadvantages of using peer groups as benchmarks
- e) custom benchmarks for a client's portfolio
- 4. Complete attribution analysis on a client's portfolio
 - a) types of attribution analysis, including:
 - risk-adjusted measures
 - peer group comparisons
 - style
 - b) scattergrams and floating bar charts
 - c) returns-based and holdings-based
 - d) sources of return and risk
- 5. Describe survivorship bias and its origination

IV. TRADITIONAL and ALTERNATIVE INVESTMENTS

(Qualification 20%) (Certification 19%)

A. Traditional Global Investments (Equity and Fixed Income)

(Qualification 4%) (Certification 5%)

- 1. Describe equity investment vehicles:
 - SMAs
- CEFsRFITs
- mutual funds
- MLPs
- ETFsUITs
- individual securities
- 2. Describe equity characteristics by:
 - a) size (capitalization)
 - b) style (growth or value)
 - c) volatility (defensive vs. dynamic)
 - d) capital structure:
 - common
- debt
- preferred
- e) domestic vs. international
- f) developed vs. emerging vs. frontier
- g) ADRs vs. ordinary shares
- 3. Describe equity valuation methods
 - a) security analysis
 - i. dividend discount
 - ii. free cash flow
 - iii. weighted average cost of capital
 - b) economic analysis
 - i. business cycle as it pertains to equities
 - ii. economic indicators as they pertain to equities
 - c) industry and sector analysis
 - d) fundamental analysis
 - i. financial statements:
 - statement of financial position
 - statement of cash flows
 - ii. common financial ratios:
 - PEs
- Price to sales
- Price to Book
- return on equity
- iii. qualitative analyses:
 - management strength
 - governance
- 4. Differentiate among global indices:cap-weightedfundamentally weighted
 - equal weighted

- 5. Evaluate potential benefits of international diversification in a portfolio
- 6. Describe changes in correlations over time across sectors, countries, and regions
- 7. Analyze equity market valuation:
 - PE ratio
- book-to-market ratio
- growth rate
- Q ratio
- 8. Describe technical analysis and its possible use for timing of purchases
- B. Fixed-Income Vehicles (Qualification 4%) (Certification 2%)
 - 1. Differentiate among fixed-income investment vehicles (e.g., SMAs, mutual funds, ETPs, UITs, CEFs, individual securities)
 - a) fixed income sectors:
 - sovereign debt
- corporate
- emerging market debt
- municipals
- mortgage backed securities inflation-protected securities
- b) money-market instruments
- 2. Evaluate characteristics, including basic features, coupon structures, payment methods, options by:
 - a) quality
 - b) maturity, duration, and convexity
 - c) issue size
 - d) fixed or floating rate coupons
 - e) call features
 - f) YTM and YTW
- 3. Analyze pricing of fixed-income securities:
 - comparing relative rates
- inflation adjusted valuation
- duration
- discounts and premiums
- 4. Describe common fixed income indices and benchmarks
- C. Foreign Exchange Market (Qualification 2%) (Certification 1%)
 - 1. Manage currency risk in a portfolio
- D. Alternative Investments (Qualification 4%) (Certification 7%)
 - 1. Distinguish between strategy and structure
 - 2. Differentiate among accredited investors, non-accredited investors, and qualified purchasers
 - 3. Distinguish between liquid and illiquid strategies
 - 4. Analyze and evaluate alternative investment asset classes (e.g., characteristics, risks, tax ramifications, expected returns)
 - a) real estate
 - b) commodities
 - c) private equity, venture capital
 - d) private debt
 - e) infrastructure
 - 5. Explain structural considerations
 - a) transparency, applicable regulation, illiquidity, leverage, and compensation structures
 - b) significance of third-party custodianship and independent auditing
 - c) funds of funds
 - d) heightened due diligence
 - e) hedge fund (LP) vs. marketable vs. redeemable security structures
 - 6. Describe alternative investment strategies:
 - risk enhancers and diversifiers
 - characteristics
- tax ramifications
- risks
- expected returns
- 7. Evaluate the following:
 - a) absolute return
 - b) arbitrage: • convertible
- fixed income
- c) dedicated short bias

- d) market neutral
- e) event driven
- f) global macro
- g) long/short
- h) managed futures
- 8. Evaluate alternative investment indices and benchmarks

E. Options, Futures, and Other Derivatives

(Qualification 2%) (Certification 2%)

- 1. Describe and analyze options
 - a) puts, calls, and put-call parity
 - b) protective puts, put writing, covered calls, straddles, spreads, and collars
- 2. Recommend options and options strategies to enhance returns and/or manage risk in a portfolio
- 3. Explain futures contracts, pricing, and valuation and the use of other derivatives in a portfolio:
 - foreign exchange
- swaps
- stock-index
- CDOs
- interest rate
- repos
- 4. Describe tools and techniques to leverage investments in a portfolio a) margin rules and requirements
 - b) use of leveraged products:
 - - leveraged mutual funds
 - ETFs • hedge funds
- 5. Distinguish between hedging and speculating

F. Tools and Strategies Based on Technical Analysis

(Qualification 4%) (Certification 2%)

- 1. Describe trends (time cycles), continuation, and corrections
- 2. Explain the Dow Theory and moving averages
- 3. Describe various momentum indicators
- 4. Discuss how tactical and dynamic asset allocation strategies utilize principles of technical analysis

V. PORTFOLIO THEORY and BEHAVIORAL FINANCE

(Qualification 20%) (Certification 12%)

A. Portfolio Theories and Models (Qualification 12%) (Certification 7%)

- 1. Explain Modern Portfolio Theory (MPT)
 - a) key MPT assumptions:
 - normal return distributions
 - fixed asset correlations
 - investors are rational
 - investors are risk-averse
 - risk is known and constant • all information is public
 - there are no taxes or transaction costs
 - b) key aspects of MPT:
 - return vs. risk
 - M\/O
 - Efficient Frontier
 - how portfolios may be constructed from this methodology
 - c) criticisms of MPT
 - d) Capital Allocation Line (CAL)
 - e) positive diversification effects
- 2. Interpret efficient market hypothesis:
 - weak
- semi-strong
- 3. Evaluate Capital Asset Pricing Model (CAPM)
 - a) systematic (market risk) and non-systematic (idiosyncratic risk)
 - b) Security Market Line (SML)
- 4. Evaluate Arbitrage Pricing Theory (APT) explanatory models

- Evaluate downside risk using Post-Modern Portfolio Theory (Post-MPT) theories, methodologies, and strategies:
 - semi-variance (down side deviation) Sortino ratio
 - Value-at-Risk (VaR)
- skewness and kurtosis

B. Behavioral Finance Theory

(Qualification 8%) (Certification 5%)

- 1. Manage biases and mental heuristics related to
 - a) existing beliefs:
 - cognitive dissonance
- illusion of control
- conservatism
- hindsight
- confirmation
- home country
- representative
- b) information processing:
 - mental accounting
 - anchoring and adjustment

 - framing
 - availability

- self-attribution
- outcome
- recency

- availability
- 2. Describe biases and mental heuristics related to emotions and explain how to overcome them
 - a) loss aversion
 - b) overconfidence
 - c) self-control
 - d) status quo
 - e) endowment
 - f) regret aversion
 - g) affinity
- 3. Describe common behavioral investor types and explain how to work with each effectively in practice
 - a) preservers
 - b) followers
 - c) independents
 - d) accumulators

VI. INVESTMENT CONSULTING PROCESS (Qualification 20%) (Certification 24%) A. Client Discovery (Qualification 4%) (Certification 2%)

- 1. Evaluate clients' situation including:
 - current financial position time horizons
 - tolerance for risk
- tax status and expectations
- goals and objectives
- 2. Discuss economic and capital market assumptions and expectations
- 3. Evaluate investment management models
 - a) goals-based investment management
 - b) liability driven strategies and modeling
 - c) scenario analysis and modeling for inflation, deflation, stagflation, and growth
 - d) uses, advantages, and disadvantages of value-at-risk (VaR) and Monte Carlo simulations
 - e) relationship between time horizon and expected return vs. terminal value result
- Explain asset allocation methodology: strategic, tactical, and/or dynamic
 - a) steps involved in the allocation of assets
 - b) spending policy and its implications on asset allocation
 - c) asset allocation for various clients and entities
 - d) strategic vs. tactical asset allocation, including:
 - buy and hold
 - constant mix
 - constant proportion portfolio insurance (CPPI)
 - e) core and satellite strategy
 - f) total return

- 5. Explain tax-aware investment strategies
 - a) components and importance of tax efficiency
 - b) implementation of tax-efficient strategies including:
 - tax-efficient investments
 - tax gain and loss harvesting strategies
 - asset location with respect to tax efficiency and recommend tax-efficient asset positioning
 - tax-efficient plan for taking retirement distributions
 - c) tax deferral vs. tax exemption

B. Investment Policy Statement (IPS) (Qualification 4%) (Certification 4%)

- Explain the components of an investment policy statement (IPS) including:
 - fund objectives
 - allowable asset classes
 - target asset allocation and benchmarks
 - risk metrics and constraints
 - special restrictions
 - · rebalancing protocol
- 2. Prepare an Investment Policy Statement (IPS) for clients that includes:
 - a) governance of funds:
 - FRISA
 - Uniform Prudent Investor Act
 - Uniform Principal and Income Act
 - Uniform Prudent Management of Institutional Funds Act
 - b) client's risk tolerance
 - c) whether the policy is consistent with a dynamic/tactical or static asset allocation
 - d) the investment time horizon
 - e) the taxation position status of the client (non-profit or taxable) and estimated horizon period tax rate
 - f) the likelihood of capital preservation
 - g) required target rate of return
 - h) rebalancing parameters
 - i) a liability policy
 - j) monitoring requirements
 - k) the role of capital market expectations in the IPS
 - unique elements and items necessary for an IPS developed for institutional clients
 - m) approaches to situational profiling, including:
 - sources of wealth stage of life
 - · measures of wealth
 - n) investment objectives, spending policy, appropriate governance, and client constraints
- Review the IPS for compliance at least annually and modify as necessary

C. Portfolio Risk Management Strategies

(Qualification 4%) (Certification 6%)

- 1. Analyze and evaluate
 - a) diversification strategies including strategic, tactical, and dynamic asset allocation as they address risk
 - b) the risk hedging techniques of purchasing insurance and buying or selling options to hedge risk in a portfolio
 - c) investment products available to manage or hedge portfolio risk
- 2. Describe the concept of risk budgeting including risk unit allocation
 - a) traditional asset-based allocation approach and the risk-based asset allocation approach
 - b) risk parity investment strategies

- c) risk factors including:
 - equity
 - bond
 - currency
 - macro/environmental

 - commodity
- · interest rate
- inflation
- · counter party
- credit
- 3. Evaluate and implement retirement distribution strategies

D. Manager Search, Selection, and Monitoring

(Qualification 4%) (Certification 10%)

- 1. Identify the elements and categories of manager search and selection including the firm's:
 - philosophy
- future progress
- people
- price
- business plans
- performance
- processes
- 2. Adopt a manager search methodology using standard criteria for manager/index selection, including qualitative and quantitative
- 3. Adopt hedge fund manager search methodology using standard criteria for manager/index selection, including qualitative and quantitative criteria
- 4. Establish expectations and criteria for manager search
- 5. Evaluate short term versus long term results
- 6. Evaluate passive versus active strategies
- 7. Evaluate past performance for manager search and selection
- 8. Use active manager databases and other research
- 9. Explain components of the individual manager interview
- 10. Evaluate the structure of:
 - hedge fund
- ETF

· fund of funds

- SMA
- mutual fund
- 11. Execute active share research
- 12. Describe manager styles (e.g. growth, value, market- oriented, small cap) and asset class structures (e.g. single manager vs. multimanager)
- 13. Identify issues with manager composites
- 14. Identify the benefits and caveats of manager structuring including a multi-manager approach
- 15. Implement a core satellite approach
- 16. Conduct manager search and perform due diligence
- 17. Monitor qualitative and quantitative manager attributes

Perform Portfolio Review and Revisions Process

(Qualification 4%) (Certification 2%)

- 1. Confirm the following:
 - a) client goals, time horizon, circumstances, and constraints
 - b) economic and market conditions and expectations
 - c) absolute and relative performance
 - d) the effectiveness of the portfolio and/or plan
 - e) reporting (e.g., tracking to primary objective and secondary objectives)
- 2. Make portfolio adjustments within IPS guidelines, and considering constraints communicated by the client, costs, timing, and taxation
 - a) benefits and costs of rebalancing
 - b) rebalancing methodologies and considerations

Totals (Qualification 100%) (Certification 100%)

Taking the Examinations

Examinations will be given by computer at a PSI/AMP Assessment Center. Candidates do not need computer experience or typing skills to take the examinations. On the day of the examination appointment, candidates must report to the Assessment Center no later than the scheduled testing time. Candidates should look for the PSI/AMP Assessment Center Check-in area. A candidate who arrives more than 15 minutes after the scheduled testing time will not be admitted.

Calculator Policy

IMCA will allow use of the following calculators on the CIMA® Certification Examinations: HP 10b, HP 10bII, HP 10bII Plus, HP 12C, HP 12C Platinum, HP 17B, HP 17BII and HP 17BII Plus, as well as the Texas Instrument BA II Plus, BA II Plus Professional and BA II Plus Business Analyst. Newer and older versions of these calculators will be allowed for use.

Candidates are required to clear their financial calculator's memory prior to an exam. Any notes, including manually programmed formulas, will not be allowed in the testing area. If the calculator has notes/formulas printed on the calculator, or includes any other information, it must be removed or covered by solid color tape. Calculators are subject to inspection by test center staff.

IMCA does not endorse or recommend any specific model for use on the CIMA Certification Examinations.

Identification

To gain admission to the Assessment Center, a candidate must present two forms of identification. The primary form must be government issued, current and include name, signature and photograph. Temporary ID is not accepted. Candidates are required to sign a roster for verification of identity.

- Examples of valid primary forms of identification are: driver's license with photograph; state/government identification card with photograph; passport; military identification card with photograph.
- The secondary form of identification must display the candidate's name and signature for signature verification (e.g., credit card with signature, government issued or social security card with signature, employment/student ID card with signature).
- If a candidate's name on the registration is different than it appears on an identification document, the candidate must bring proof of name change (e.g., marriage license, divorce decree or court order).

Security

PSI/AMP administration and security standards are designed to ensure all candidates are provided the same opportunity to demonstrate their abilities. The Assessment Center is continuously monitored by audio and video surveillance equipment for security purposes.

The following security procedures apply during the examination:

- Examinations are proprietary. No cameras, notes, tape recorders, pagers or cellular/smart phones are allowed in the testing room.
 Possession of a cellular/smart phone or other electronic devices is strictly prohibited and will result in dismissal from the examination.
- No guests, visitors or family members are allowed in the testing room or reception areas.
- Candidates may be subjected to a metal detection scan upon entering the examination room.

Personal Belongings

No personal items, valuables or weapons should be brought to the Assessment Center. Only wallets and keys are permitted. Large coats and jackets must be left outside the testing room. Candidates will be provided a soft locker to store wallets and/or keys. Candidates will not have access to these items until after the examination is completed. Please note the following items will not be allowed in the testing room except securely locked in the soft locker.

- watches
- hats
- wallets
- keys

Once a candidate has placed personal belongings into the soft locker, the candidate will be asked to pull out their pockets to ensure they are empty. If personal items are brought that will not fit in the soft locker, a candidate will not be able to test. The site will not store or be responsible for personal belongings.

If any personal items are observed or heard (cellular/smart phones, alarms) in the testing room after the examination is started, the candidate will be dismissed and the administration will be forfeited.

Examination Restrictions

- Pencils will be provided during check-in.
- Candidates will be provided with one piece of scratch paper at a
 time to use during the examination, unless noted on the sign-in
 roster for a particular candidate. Candidates must return the scratch
 paper to the proctor at the completion of testing in order to
 receive their score report.
- No documents or notes of any kind may be removed from the Assessment Center.
- No questions concerning the content of the examination may be asked during the examination.
- Eating, drinking or smoking will not be permitted in the Assessment Center.
- Candidates may take a break whenever necessary, but candidates will not be allowed additional time to make up for time lost during breaks.

Misconduct

If a candidate engages in any of the following conduct during the examination the candidate may be dismissed, scores will not be reported and examination fees will not be refunded. Examples of misconduct are when you:

- create a disturbance, are abusive, or otherwise uncooperative;
- display and/or use electronic communications equipment such as pagers, cellular/smart phones,
- talk or participate in conversation with other examination candidates:
- give or receive help or are suspected of doing so;
- leave the Assessment Center during the administration;
- attempt to record examination questions or make notes;
- attempt to take the examination for someone else;
- are observed with personal belongings, or
- are observed with notes, books or other aids without it being noted on the roster.

Copyrighted Examination Questions

All examination questions are the copyrighted property of IMCA. It is forbidden under federal copyright law to copy, reproduce, record, distribute, or display these examination questions by any means, in whole or in part. Doing so may subject candidates to severe civil and criminal penalties.

Computer Login

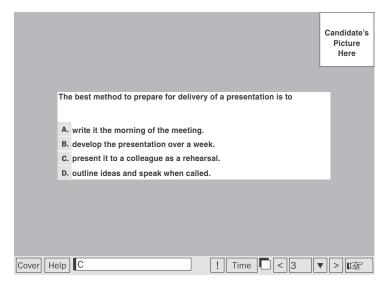
After a candidate's identification has been confirmed, the candidate will be directed to a testing carrel. The candidate will be instructed on-screen to enter a candidate identification number. U.S. candidates will photograph him/herself which will remain on the screen throughout the examination session. This photograph will also print on the candidate's score report. International web-based testing does not include this feature.

Practice Examination

Prior to attempting the examination, candidates will be given the opportunity to practice taking an examination on the computer. The time used for this practice examination is **not** counted as part of the examination time or score. When the candidate is comfortable with the computer testing process, the candidate may quit the practice session and begin the timed examination.

Timed Examination

Following the practice examination, the candidate will begin the timed examination. Before beginning, instructions for taking the examination are provided on-screen.



The computer monitors the time spent on the examination. The examination will terminate if the candidate exceeds the time allowed. Candidates may click on the "Time" box in the lower right of the screen to monitor their time. A digital clock indicates the time remaining to complete the examination. The Time feature may be turned off during the examination.

Only one examination question is presented at a time. The question number appears in the lower right of the screen. Choices of answers to the examination question are identified as A, B, C, or D. Candidates must indicate their choices by either typing in the letter in the response box in the lower left of the computer screen or clicking in the option using the mouse. To change an answer, a candidate may enter a different option by typing the letter in the response box or by clicking on the option using the mouse. A candidate may change an answer as many times as wanted during the examination time limit.

To move to the next question, a candidate must click on the forward arrow (>) in the lower right of the screen. This action will move the candidate forward through the examination question by question. If a candidate wishes to review any question or questions, click the backward arrow (<) or use the left arrow key to move backward through the examination.

An examination question may be left unanswered for return later in the examination session. Questions may also be bookmarked for later review by clicking in the blank square to the right of the Time button. A candidate can click on the hand icon to advance to the next unanswered or bookmarked question on the examination. To identify all unanswered and bookmarked questions, repeatedly click on the hand icon. When the examination is completed, the number of examination questions answered is reported. If not all questions have been answered and there is time remaining, the candidate can return to the examination and answer those questions. Candidates should

provide an answer for each examination question before ending the examination. There is no penalty for quessing.

Candidate Comments

During the examination, comments may be provided for any question by clicking on the button displaying an exclamation point (!) to the left of the Time button. This opens a dialogue box where comments may be entered. Comments will be reviewed, but individual responses will not be provided. Note: candidates will not be given additional time to make comments.

After the Examinations

After completing either the Qualification Examination or the Certification Examination, candidates are asked to complete a short evaluation of their examination experience.

Scores are not reported over the telephone, by electronic mail, or by facsimile. Qualification Examination and Certification Examination score reports are provided immediately after candidates complete their examination in the U.S.

International candidates will receive their official score reports by postal mail to the address of record approximately 5 to 10 business days after exam completion. Preliminary score reports will be sent via email by IMCA to international candidates approximately three U.S. business days after exam completion.

Candidates' score reports will indicate a "pass" or "fail." A candidate's pass/fail status is determined by the raw score. Candidates must achieve a passing score on the Qualification Examination to be qualified to apply to a Registered Education Provider for the education component of the program. Candidates must achieve a passing score on the Certification Examination to complete the certification process.

Note that due to Exam Development and implementation activities, there may be infrequent periods of time during which score reports will not be available immediately after taking an exam but will be available after IMCA completes the exam implementation and analysis activities.

Pass/Fail Score Determination

The methodology used to set the minimum passing scores for the Qualification Examination and the Certification Examination is the Modified Angoff method, applied during the performance of a Passing Point Study by a panel of experts in the field. The experts evaluated each question on the examination to determine how many correct answers are necessary to demonstrate the knowledge and skills required to pass this examination portion. A candidate's ability to pass the examination depends on the knowledge and skill demonstrated, not on the performance of other candidates.

Passing scores may vary slightly for each version of the examination. To ensure fairness to all candidates, a process of statistical equating is used. This involves selecting an appropriate mix of individual

questions for each version of the examination that meet the content distribution requirements of the examination content blueprint. Because each question has been pretested, a difficulty level can be assigned. The process then considers the difficulty level of each question selected for each version of the examination, attempting to match the difficulty level of each version as closely as possible. To assure fairness, slight variations in difficulty level are addressed by adjusting the passing score up or down, depending on the overall difficulty level statistics for the group of scored questions that appear on a particular version of the examination.

Scores Cancelled by IMCA or PSI/AMP

IMCA and PSI/AMP are responsible for the validity and integrity of the scores they report. On occasion, occurrences, such as computer malfunction or misconduct by a candidate, may cause a score to be suspect. IMCA and PSI/AMP reserve the right to void or withhold examination results if, upon investigation, violation of its regulations is discovered.

If You Pass the Examination

Qualification Examination

Candidates who pass the Qualification Examination will receive an email from IMCA that informs them of their eligibility to enroll in a CIMA Certification Registered Education Provider's program.

IMCA will provide a list of all candidates who pass the Qualification Examination to Registered Education Providers except for those candidates who have elected to opt out of their information being shared.

After passing the Qualification Examination and receiving the eligibility notice from IMCA, candidates should contact a Registered Education Provider to enroll in an education program. The Registered Education Providers can be accessed online at www.IMCA.org/pages/registered-education-providers.

Certification Examination

The testing agency will notify IMCA of all candidates who pass the Certification Examination. IMCA will then send those candidates a communication outlining the final steps for certification.

If You Do Not Pass the Examination

Candidates who do not pass the examinations will be provided a list of topics that merit additional study. IMCA will email candidates steps to apply for and pay the fee to retake an exam. Once IMCA has processed a request, they will notify PSI/AMP of the candidate's eligibility to retest. PSI/AMP will then contact the candidate with steps to reschedule an exam. Candidates who do not pass the Qualification Examination must wait 30 days to retest. Candidates who do not pass the Certification Examination must wait until the next administration of the examination to retest

See the "Rescheduling an Examination" section on page 3 for instructions to schedule a retest date.

Confidentiality

Information about candidates for testing and their examination results are considered confidential. Studies and reports concerning candidates will contain no information identifiable with any candidate, unless authorized by the candidate.

Duplicate Score Report

Candidates may purchase additional copies of their results at a cost of \$25 USD per copy. Requests must be submitted to PSI/AMP in writing within 12 months of the examination. The request must include the candidate's name, Candidate ID, mailing address, telephone number, date of examination, and examination taken. Submit this information with the required fee payable to PSI/AMP in the form of a money order or cashier's check. Duplicate score reports will be mailed within approximately five business days after receipt of the request and fee.

CIMA Certification Renewal Requirements

The CIMA® and Certified Investment Management Analyst® marks must be renewed every two years. The requirements to renew the CIMA certification are as follows:

Each CIMA certificant must:

- Complete and report a minimum of 40 hours of qualifying continuing education (CE) during the two-year certification renewal period, two of which must be ethics credits. Visit <u>www.IMCA.</u> <u>org/pages/continuing-education</u> for additional information.
- 2. Complete compliance requirements.
- 3. Pay a certification renewal fee.

All CIMA professionals are required to complete the three renewal requirements outlined above on or before the certification period expiration date. Failure to meet the renewal requirements will result in loss of the right to use the CIMA Certification .

Certification renewal requirements may change at the discretion of IMCA's Certification Commission. CIMA certificants will be notified in advance of changes.

The standard certification period is two years (24 continuous months) and expires on the last day of the renewal month.

Examination Inquiries

Examination materials are not available for review because of security issues. PSI/AMP and IMCA staff members will not discuss specific examination items and there are no appeal procedures to challenge individual examination items, answers, or a failing score.

CIMA CERTIFICATION FEE SCHEDULE

For the most up-to-date information, please visit IMCA's website: www.IMCA.org/pages/application-fees.

Overview of the CIMA® Certification Program

Initial Certification		
Step 1	CIMA Application and Background Check	Application Fee: \$600 current IMCA member \$995 with IMCA membership \$1095 non-member
Step 2	CIMA Qualification Exam	First-time testing fee included in application fee; retesting fee is \$125 for IMCA members; \$175 for non-members.
Step 3	CIMA Education Program	Tuition is paid directly to a Registered Education Provider
Step 4	CIMA Certification Exam	First-time testing fee included in application fee; retesting fee is \$225 for IMCA members; \$325 for non-members.
Step 5	Licensing agreement and adherence to IMCA's Code of Professional Responsibility and Rules and Guidelines for the Use of the Marks.	Initial certification fee is paid and certification renewal date is set.
Recertification		
Step 1	Pay CIMA Certification Fee. Fee is paid at the beginning of renewal period.	Certification Renewal Fee: \$275 current IMCA member \$895 non-member \$620 with IMCA membership
Step 2	Report 40 hours continuing education (CE) credit earned during previous two-year certification renewal period	Note: For acceptable CE topics visit www.IMCA.org/pages/continuing-education
Step 3	License agreement and adherence to IMCA's Code of Professional Responsibility and Rules and Guidelines for the Use of the Marks; disclose violations, if any.	Note: A completed compliance disclosure is required to receive recertification.

All fees are in U.S. dollars (USD). All fees are subject to change.

DUPLICATE SCORE REPORT REQUEST FORM

Use this form to request a duplicate score report. Complete all requested information. This form must be received within 12 months of the examination date and include a cashier's check or money order payable to PSI/AMP for \$25 USD per copy. Duplicate score reports will be mailed within approximately five (5) business days following receipt of the request.

Candidate ID #	Assessment Center:		_
Name (Last, First, Middle Initial, Former Name)			_
Mailing Address			_
City	State	Zip Code	_
Daytime Telephone Number	Email Address		_
Exam Taken: CIMA Qualification CIMA Certificat	ion Examination Date:		_
I hereby authorize PSI/AMP to send me a duplica	te score report.		
Signature:	Date:		

Return this form to:
PSI/AMP, 18000 W. 105th St., Olathe, KS 66061-7543
If you have questions, call Candidate Services at 888-519-9901.



REQUEST FOR SPECIAL EXAMINATION ACCOMMODATIONS

If you have a disability covered by the Americans with Disabilities Act, please complete this form and the Documentation of Disability-Related Needs on the reverse side and submit it with your application at least 45 days prior to your requested examination date. The information you provide and any documentation regarding your disability and your need for accommodation in testing will be treated with strict confidentiality.

Candidate Information		
Candidate ID # Requested Assessment Center:		
Name (Last, First, Middle Initial, Former	Name)	
Mailing Address		
City	State	Zip Code
Daytime Telephone Number	Email Address	
Special Accommodatio	ns	
I request special accommodations	for the	examination.
Please provide (check all that appl	ly):	
Reader		
Extended	d testing time (time and a half)	
Reduced	distraction environment	
Please sp	pecify below if other special accommodations are neede	ed.
Comments:		
PLEASE READ AND SIGN:		
	nosing professional to discuss with PSI/AMP staff my I	records and history as they relate to the

Return this form to:

Date:

Signature:



DOCUMENTATION OF DISABILITY-RELATED NEEDS

Please have this section completed by an appropriate professional (education professional, physician, psychologist, psychiatrist) to ensure that PSI/AMP is able to provide the required accommodations.

Professional Documentation		
I have knownCandidate Name	since	/ in my capacity as a
My Professional Title		
The candidate discussed with me the nature of the test to ability described below, he/she should be accommodated		· ·
Description of Disability:		
Signed:	Titl	tle:
Printed Name:		
Address:		
Telephone Number:		
Date:	License # (if applical	able):

Return this form to:

PSI/AMP, 18000 W. 105th St., Olathe, KS 66061-7543, Fax: 913-895-4650 If you have questions, call Candidate Services at 888-519-9901.



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www.IMCA.org

CERTIFIED INVESTMENT MANAGEMENT ANALYST®

CIMA

IMCA

investment management consultants association

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