Reference Document for:

Appendix 3: Associate Portfolio Manager/Portfolio Manager Competency Profile

APMs and PMs are permitted to conduct RR activities. The RR competency profile also applies and should be referred to additionally. Please refer to IIROC Notice 20-0174 Consultation Paper - Competency Profiles for Registered Representatives and Investment Representatives, Retail and Institutional to view the competencies applicable to RRs.

IIROC OCRCVM
Investment Industry Regulatory Organization of Canada
Organisme canadien de réglementation du commerce des valeurs mobilières

Associate Portfolio Manager/Portfolio Manager Competencies

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From a regulatory perspective, the competencies for a highly competent and compliant Associate Portfolio Manager (APM)/Portfolio Manager (PM) at a minimum include the following:

Portfolio Monitoring, Evaluation and Client Reporting	Page 26

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Understand and apply the following as applicable:

I. Portfolio monitoring
II. Evaluation of investment risk
III. Portfolio performance evaluation
IV. Client portfolio reporting

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Understand and apply the following as applicable:

I. Institutional portfolio management
II. Management of funds
III. New investment products

1. Regulatory Environment and Ethics		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
I. Regulatory and operating environment	• Regulatory requirements, including: ○ Business conduct ○ Trade conduct ○ Know Your Client (KYC) ○ Know Your Product (KYP) ○ Conflicts of interest, including prohibited personal financial dealings with clients ○ Disclosures to clients ○ Differences between the role of APMs and PMs ○ Anti money laundering (AML) and terrorist financing requirements ○ Dealer and regulatory restrictions regarding external communication ○ Investment management fees, fee structures and applicable guidelines for compensation • Changes to the regulatory landscape, including: ○ Fee-based account trends ○ Online advice ○ Organizational structure, key roles, and responsibilities of others in servicing a managed account client: ▪ Relationship managers ▪ Sub-advisors ▪ Fund managers ▪ Back office and head office functions ▪ Chief Investment Officer (CIO) ▪ Head of equities ▪ Head of fixed income ▪ Investment analysts	• Consider fundamental regulatory and industry knowledge • Keep up to date with industry trends and changes to regulatory requirements as it applies to discretionary managed business • Exercise discretionary authority on managed accounts while abiding by regulatory requirements, keeping in mind the difference in the roles of APMs and PMs • Identify the key internal employees and Approved Persons (APs) to support the role as a PM • Build relationships with the different areas at the firm • Identify the difference between servicing retail clients compared to institutional clients • Identify the key internal roles and how information flows to help foster investor protection • Identify the different types of communications for clients and adhere to dealer's best practices and regulatory rules and guidelines regarding social media and other external communication • Adhere to investment mandates and regulatory requirements when dealing with various types of clients • Consider regulatory trading requirements for various marketplaces, including stock exchanges and alternative trading systems (ATS)

<table>
<tr><th colspan="3">1. Regulatory Environment and Ethics</th></tr>
<tr><th>SUB COMPETENCY</th><th>KNOWLEDGE
For PMs to apply and APMs to consider and apply as applicable</th><th>BEHAVIOURS AND SKILLS
For PMs to apply and APMs to consider and apply as applicable</th></tr>
<tr><td></td><td>
Trade execution
Sales and marketing
Client service staff
Canadian Securities Administrators (CSA)
National instruments
Soft dollar arrangements
Client privacy requirements
Personal Information Protection and Electronic Documents Act (PIPEDA) requirements
Canadian Investor Protection Fund (CIPF)
Role of Office of the Superintendent of Financial Institutions (OSFI)
Types of communications with clients
Industry challenges
Corporate governance
Regulatory trading requirements for various marketplaces, including stock exchanges and alternative trading systems (ATS)
</td><td></td></tr>
<tr><td>II. Ethics</td><td>
Importance of ethics
Ethical principles
Individual values and awareness
Ethical dilemmas
Framework for ethical decision making
Critical thinking skills
Importance of independence and objectivity
Unethical practices in securities trading
Written code of ethics and standards of conduct, including:
Loyalty to clients
</td><td>
Demonstrate behaviour that conforms to high standards of ethics and conduct
Apply critical thinking to identify and address ethical dilemmas and making ethical decisions
Apply high standards of ethics and conduct when dealing with clients and engaging in other professional activities, and promoting such behaviour with coworkers and employees
Act with independence and objectively
Carry out professional responsibilities in a thoughtful and objective manner, free from any personal
</td></tr>
</table>

1. Regulatory Environment and Ethics		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	○ Investment process and actions ○ Trading ○ Risk management, compliance, and support ○ Performance reporting and valuation, and disclosures	obligations, encumbrances, or biases, such as gifts or relationships that may influence judgement • Escalate matters of non-compliance and unethical behaviour as appropriate
III. Fiduciary duty	• Principles of fiduciary relationships, including: ○ Relationship of trust ○ Duty of care ○ Duty of loyalty ○ Duty of good faith ○ Acting in the best interest of clients • Management of conflicts of interest: ○ Address ○ Disclose ○ Avoid	• Uphold the principles of fiduciary relationships in all dealings with clients • Build and foster a relationship of trust • Serve the best interests of clients • Act with independence and objectively with prudence • Act honestly and in good faith in dealings with clients • Avoid conflicts of interest, or disclose and address as appropriate • Consider client's needs and circumstances including those of vulnerable clients
IV. Managed accounts	• Dealer's policies and procedures regarding client information, new accounts, and updates to material client information • IIROC managed account requirements, including: ○ Suitability ○ Account appropriateness ○ Opening a managed account ○ Account approval ○ Managed account agreement ○ Supervision ○ Managed account committee ○ Managed account review	• Develop a business and marketing plan to build and maintain a book of managed accounts within dealer and regulatory requirements • Use effective communication skills and inform clients about the necessary disclosures and nature of the discretionary relationship and managed accounts • Ensure team members, including APMs, use effective communication consistent with the regulatory requirements when dealing with clients • Ensure that matters are delegated appropriately

1. Regulatory Environment and Ethics		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	○ Fair allocation of investments • Relationship disclosure requirements • Primary responsibility over clients and restrictions on delegation • Confidentiality and Privacy legislation requirements	
V. Compliance and supervision	• Key roles and information flow • Role of the Supervisor of managed accounts • Role of managed account committee • Managed account review • Compliance, including: ○ Licensing and regulatory reporting ○ Sales and marketing ○ Advertising guidelines ○ Investment guidelines and restrictions • Best practices for risk control and securities trading, including: ○ Performance measurement ○ Signing authority matrix ○ Employee personal trading practices ○ Investment management agreement ○ Investment guidelines and restrictions	• Adhere to regulatory requirements and dealer's best practices for risk control and securities trading as it relates to portfolio management • Escalate situations of non-compliance to the appropriate Supervisor or compliance staff including Chief Compliance Officer (CCO)

<table>
<tr><th colspan="3">2. Investment Policy</th></tr>
<tr><th>SUB COMPETENCY</th><th>KNOWLEDGE
For PMs to apply and APMs to consider and apply as applicable</th><th>BEHAVIOURS AND SKILLS
For PMs to apply and APMs to consider and apply as applicable</th></tr>
<tr><td>I. Investment policy statement</td><td>

Scope, purpose, and details of an investment policy statement (IPS)
KYC and KYP requirements
Investment objectives

Return, including:

Measuring the return objective
Required return
Benchmarks
Retirement needs analysis

Risk, including:

Client’s willingness to take on risk
Client’s ability to take on risk
Establishing a risk tolerance and risk capacity
Defining a risk objective

Investment constraints and portfolio restrictions, including:

Time horizon
Liquidity requirements
Tax management
Legal and regulatory requirements
Environment, social, and governance (ESG) considerations and other personal values

Concentration and liquidity requirements
Leverage use and restrictions
Correlation, beta, and alpha
Multi-factor risk exposures
Asset mix categories
Types of financial instruments and their benefits and risks

</td><td>

Formulate and draft a clear IPS, taking into consideration KYC, KYP and financial profile of a client
Ensure the IPS is tailored to the client and is suitable considering their investment objectives, constraints, and restrictions
Review the IPS with the client, use effective communication to explain the documented IPS, and make changes as necessary
Provide financial investment advice and recommendations to clients
Make investment decisions on managed accounts that are consistent with the IPS including constraints and concentration limits and use of leverage
Consider the limitations of the APM role before making changes to the portfolio

</td></tr>
</table>

2. Investment Policy		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	• Schedule and process for portfolio reviews, reporting investment performance and updating the IPS, as needed • Risk management, monitoring the risk profile and reporting on portfolio risk • Advisor and client agreement • Role of sub-advisors if any	

II. Asset Allocation	• Strategic asset allocation, including:
	  ○ Mean-variance analysis
	  ○ Human capital state variable sensitivity analysis
	  ○ Equal-weighted vs. market-cap weighted
	  ○ Home country bias
	  ○ Portfolio allocation models such as Black-Litterman model
	• Typical asset allocation composition considering factors such as age, employment characteristics, time diversification and ad hoc approach
	• Dynamic asset allocation, including:
	  ○ Temporal rebalancing
	  ○ Weight-based rebalancing
	• Tactical asset allocation, including:
	  ○ Value-based approach
	  ○ Cyclical approach
	• The distinction between mechanical re-balancing and strategic re-balancing and when the APM needs pre-approval of the PM
	• Risks and benefits of using an asset allocation strategy
	• Model portfolios
	• Key aspects in selecting a rebalancing strategy
	  ○ Benefits and costs of a rebalancing strategy
		• Develop and recommend a strategic asset allocation and ongoing asset allocation plan for a client account
		• Conduct portfolio rebalancing if necessary
		• For an APM, obtain the necessary pre-approval from a PM before:
		  ○ Constructing an asset allocation and providing it to a client
		  ○ Providing a new or revised IPS or similar document that contains an asset allocation
		  ○ Selecting a model portfolio for a client
		  ○ Conducting rebalancing of a client's account that is not mechanical in nature

2. Investment Policy		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
III. Transaction costs, taxation, and inflation	• Impact of householding • Transaction costs, including: ○ Management fees ○ Trailer fees ○ Commission ○ Trading expense ratio (TER) • Tax treatments on different investment, including: ○ Interest income ○ Capital gains ○ Return of capital ○ Canadian source dividends ○ Foreign source income, dividends, and other types of distributions • Inflation • Portfolio management strategies to minimize tax, including: ○ Tax-loss harvesting ○ Crystallization ○ Reducing the yield of securities ○ Reducing the turnover of securities ○ Purchasing a put option • Characteristics of tax efficient investments • Efficiency ratios, including: ○ Capture ratio ○ Relative wealth measure	• Consider impact of householding and the appropriate transaction costs and fee structures in line with stated client agreements • Consider inflation and tax implications and other impediments to wealth accumulation when putting together suitable client portfolios • Assess the tax efficiency of investments using efficiency ratios • Implement portfolio management strategies to minimize the tax burden for client accounts • Implement fee structures in line with stated client agreements

2. Investment Policy		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	○ Morningstar tax cost ratio • Inflation-sensitive assets • Tax deferral plans	
IV. Trade strategy and execution	• Motivations to trade • Types of trades • Benchmarks for trade execution • Trading and settlement procedures • Bundled trades and fair allocation according to IIROC Rules • Trading procedures • Best execution requirements • Mechanics of exchange and over-the-counter (OTC) market trading • Trade cost measurement	• Consider the appropriate trading strategy and communicate as needed with the trade desk • Consider trade cost measurements • Consider best execution if/when responsible for executing the trade

3. **Research and Analysis**		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
I. Research	• Data collection • Sources of research, including: ○ Academic journals ○ Recommended lists ○ Internal research reports ○ Third party research reports ○ Analyst reports ○ Offering documents and/or prospectus ○ Annual reports and financial documents ○ Continuous disclosure ○ Economic reports ○ Other data sources • Regulatory requirements for research reports	• Consider various sources of available research and data to evaluate the economy, industry sector, and individual companies, as needed
II. Economic and industry analysis	• Macroeconomic analysis, including: ○ Macroeconomic factors that affect investor expectations and the price of securities ○ Economic principles that have an impact on capital markets and the needs of clients ○ Capital market expectations in the portfolio management process ○ Economic growth trend analysis ○ Major approach to economic forecasting ○ Business cycles and long and short-term expectations ○ Inflation and the business cycle ○ Causes and impacts of inflation, disinflation, and deflation on an economy ○ Implications of inflation for various investments	• Perform economic and industry analysis to help determine individual security selection in a portfolio • Consider impact of economic indicators, trends, and forecasts on portfolio strategy • Consider economic principals that have an impact on capital markets and the needs of clients • Consider how industries can be classified and the impact on investment approach

3. Research and Analysis		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	○ Effects of monetary and fiscal policy on business cycles and the economy ○ Key economic indicators ○ Cyclical trends ○ Secular trends ○ Economic forecasts ○ Consensus forecasts ○ Keynesian, monetarist, and supply-side theories ○ Theories of interest rate determination and how interest rates affect the economy ○ International trade, balance of payments and their impacts on the economy ○ Exchange rates and their impacts on the economy ○ Valuation techniques and models ○ Economic reports and other relevant sources of information, including the assumptions and valuation approach used • Industry analysis and impact on a company's security valuation, including: ○ Industry classifications ○ Global industry classification system ○ Life cycle stages and their different growth rates and risks ○ Industry performance during different stages of the economic cycle ○ Differences in how companies are analysed and valued within the industry ○ Key industry characteristics	

3. Research and Analysis		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	o Industry reports and other relevant sources of information, including the assumptions and valuation approach used	
III. Company and financial analysis	• Regulatory filings • Other sources of information • Factors involved in performing company analysis to determine whether a company represents a good investment • Company reports and other relevant sources of information, including the assumptions and valuation approach used • Takeover process and takeover legislation • Insider bids and issuer bid regulations • The rules for public company disclosure and statutory rights of investors • Qualitative company analysis, including: o Management and corporate governance o Competitive advantage o Business model • Financial statement analysis, including: o Income statements o Balance sheets o Cash flow statements o Notes and auditor's report o Intrinsic value o Expected return o Dividend discount model o Discounted cash flow model o Relative valuation models and ratios	• Perform company and financial statement analysis to help determine individual security selection in a portfolio • Calculate the intrinsic value of a stock and determine if a stock is undervalued or overvalued • Conduct due diligence of mutual funds, hedge funds, real estate, and private equity within the context of the portfolio under review

3. Research and Analysis		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	○ Limitations of accounting data and financial statement analysis	
IV. Technical/statistical analysis	• Market theories explaining stock market behavior • Chart analysis • Evidence on the (lack of) efficacy of chart analysis • Types of price charts, including: ○ Bar charts ○ Line charts ○ Candlestick charts • Types of chart patterns, including: ○ Trendlines ○ Support and resistance levels ○ Reversal formations ○ Continuation patterns • Statistical analysis • Multi-factor regression analysis • Trend-following indicators such as moving averages • Momentum indicators, including: ○ Momentum oscillator ○ Moving average convergence-divergence (MACD) ○ Stochastic ○ Relative strength index (RSI) • Sentiment indicators, including ○ Investor expectations ○ Contrarian indicators ○ Bullish and bearish consensus indicators ○ Public short ratio • Intermarket analysis	• Consider technical analysis when selecting individual securities or in reviewing the portfolio

3. Research and Analysis		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
V. Financial technology (fintech)	• Use of fintech in investment management • Big data projects • Artificial intelligence tools • Machine learning	• Stay up to date with the use of fintech in investment management processes, as appropriate or needed

4. **Portfolio Construction and Strategies**		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
I. Portfolio Construction	• Principles of portfolio construction • Product due diligence process • Various investment products in a portfolio • Correlation, beta, and alpha • Multi-factor asset pricing models • Risk and return relationships of investment products • Overall risk budget for the portfolio and subdivision over the sources of investment return • Diversification and concentration • Asset classes • Capital market expectations • Backtesting and simulation analysis • Sensitivity analysis • Portfolio management styles • Ongoing consideration of account appropriateness • Overall costs, including embedded fees • Factors affecting rebalancing policy	• Consider the investment products available, their correlation, and risk and return relationship, when constructing a portfolio suitable for the client based on their IPS • Ensure investment strategies are appropriate • Consider impact of concentration and diversification and evaluate it within context of the IPS • Consider the use of backtesting and simulation analysis and the use of sensitivity analysis to see how an investment strategy may perform • Consider overall costs when constructing portfolios • Evaluate the ongoing appropriateness of the portfolio construction for a client and rebalance as needed • Consider the limitations of the APM role before making changes to the portfolio

II. Behavioural Finance	• Principles of behavioural finance
	• Efficient market hypotheses:
	  ○ Weak form
	  ○ Semi-strong form
	  ○ Strong form
	• Irregularities in the overall market, including:
	  ○ Fundamental
	  ○ Technical
	  ○ Calendar
		• Consider behavioural finance and how it may cause irregularities to a market's efficiency
		• Identify behavioural biases in clients and how it can affect their decision making
		• Apply bias diagnoses when structuring asset allocation

4. Portfolio Construction and Strategies		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	○ Behavioral and risk-based explanations for anomalies ○ Limits of arbitrage • Behavioural biases of individual investors, including: ○ Investor biases ○ Cognitive biases ○ Emotional biases ○ Implications for financial decision making • Investor personality types and dimensions, including: ○ Uses ○ Limitations	
III. Equity investments within portfolios	• Bottom-up approaches: ○ Value-oriented approach ○ Growth-oriented approach • Top-down approaches: ○ Macro or micro-economic analysis of trends and market forecasts • Portfolio management strategies: ○ Passive ▪ Evidence supporting passive ▪ Replicating an index ▪ Tracking an index ▪ Fundamental indexing ▪ Risk budgeting and enhanced indexing ○ Systematic factors ▪ Multi-factor funds ▪ Size, value, profitability, investment, momentum ○ Active ▪ Evidence on the failure, on average, of managers to beat passive indexes ▪ Sector rotation	• Evaluate various strategies to create a portfolio with the goal of maximizing overall investment return, controlling risk, and matching the investment strategy to the investment objectives, constraints, and risk profile for the client. • Consider impact of concentration and diversification and evaluate it within context of the IPS • Consider overall costs when constructing portfolios • Consider the costs with new issues including whether there is “double dipping”

4. Portfolio Construction and Strategies		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	▪ Timing ▪ Growth investing ▪ Value/income investing ▪ Small-capitalization size investing • Active portfolio construction: o Long only portfolios o Enhanced active equity investing o Market neutral long-short investing o Portable alpha strategy • Equity valuation • Use of derivatives in managing equity portfolios o Hedging with equity index derivatives o Changing a portfolio's asset mix ▪ Stock index futures ▪ Equity swaps • Tax considerations • Concentration • Diversification • New issues	
IV. Debt investments within portfolios	• Active strategies, including: o Interest rate strategies o Yield curve strategies o Intermarket spread strategies o Intramarket spread strategies • Passive strategies, including: o Buy and hold o Variable credit and term exposure/fixed income factor investing	• Evaluate various strategies to create a portfolio with the goal of maximizing overall investment return, controlling risk, and matching the investment strategy to the investment objectives, constraints, and risk profile for the client • Evaluate and use the appropriate debt strategy to create a portfolio • Calculate the price and yield of debt securities • Analyze debt securities based on price volatility • Calculate changes in bond prices due to duration or convexity

4. Portfolio Construction and Strategies		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	○ Barbell portfolio ○ Indexation ○ Laddered portfolio • Dedicated strategies, including: ○ Cash-flow matching ○ Immunization ○ Contingent immunization • Evaluating different management techniques • Valuation and pricing • Bond financing and repo transactions • Risk factors, including: ○ Default risk ○ Interest rate risk ○ Reinvestment rate risk • Bond duration, including: ○ Properties of duration ○ Calculate Macaulay duration ○ Calculate modified duration ○ Calculate a portfolio's modified duration ○ Matching duration ○ Assumptions • Bond's convexity • Structured notes • Marketplaces for different types of fixed income investments	• Evaluate the investment quality, term structure and pricing of debt securities • Determine bond price volatility using duration and convexity • Evaluate and consider a company's capital structure • Consider marketplaces when purchasing and selling different types of fixed income investments
V. Other bond portfolio	• Securitization • Asset-backed securities • Mortgage-backed securities	• Evaluate other fixed income investments and strategies and consider their suitability when constructing a portfolio

SUB COMPETENCY	KNOWLEDGE For PMs to apply and APMs to consider and apply as applicable	BEHAVIOURS AND SKILLS For PMs to apply and APMs to consider and apply as applicable

construction techniques	• Collateralized debt obligations
	• Foreign denominated bonds
	• Real return bonds
	• Using derivatives in fixed income management
	  ○ Forward rate agreements
	  ○ Interest rate futures
	  ○ Interest rate swaps
	  ○ Credit derivatives
	• High-yield bonds, including:
	  ○ Credit rating agencies and methodology
	  ○ Default risk and default rates
	  ○ Recovery rates
	  ○ Credit spread
	  ○ Unique coupon structures
	• Fixed income exchange traded funds (ETFs)	

VI. Derivatives within portfolios	• Various derivative strategies and how they can be used in a client portfolio
	• Applications of derivative investments including:
	  ○ Hedging
	  ○ Directional bets
	  ○ Creating desired payoffs
	  ○ Replicating an asset's return
	• Use of options strategies, including:
	  ○ Covered calls
	  ○ Protective puts
	  ○ Spread strategies
	• Derivatives strategy selection
	• Options pricing models, including:
	  ○ Intrinsic vs. time value
		• Consider correlation between the underlying interest, such as stocks, commodities, currencies, bonds, indices, and the derivative itself
		• Consider and evaluate the use of derivatives in a client portfolio, including using pricing models and variable sensitivity metrics

SUB COMPETENCY	KNOWLEDGE For PMs to apply and APMs to consider and apply as applicable	BEHAVIOURS AND SKILLS For PMs to apply and APMs to consider and apply as applicable
	○ Black-Scholes-Merton ○ Binomial • Variable sensitivity metrics, including: ○ Delta ○ Gamma ○ Theta ○ Vega ○ Rho • Swaps, forwards, and futures strategies, including: ○ Currency ○ Interest rate ○ Equity	
VII. Alternative investments within portfolios	• Types of alternative investments including: ○ Hedge funds and hedge fund strategies ▪ Relative value ▪ Event driven ▪ Directional ▪ Fund of hedge funds ○ Commodities ○ Real estate funds ○ Private equity ○ Liquid alternative funds ○ Insurance based investment products • Role of alternative investments in portfolios, including: ○ Ways to invest ○ Features and risks ○ Due diligence in selection of alternative investments	• Evaluate alternative investments and consider their suitability when constructing a portfolio • Consider the use of alternative investments, including their valuation and correlation, within a portfolio

4. Portfolio Construction and Strategies		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	○ Advantages and challenges ○ Fees and costs and their impact on returns • Trends and developments, including: ○ Increased government regulation ○ Evidence of poor performance after costs ○ Institutionalization ○ Continued innovation ○ Cryptocurrency	
VIII. Managed products within portfolios	• Use of managed products, including: ○ Client's needs ○ Size of the client account ○ Transaction costs and management fees ○ Liquidity • Mutual funds, including: ○ Trust structure ○ Corporate class structure ○ Types of funds ○ Management ○ Philosophy and investing style ○ Process ○ Performance ○ Fees ○ Trading expenses • Closed-end funds and their use in client portfolios	• Conduct due diligence on managed products and evaluate whether they are suitable for a particular client portfolio • Consider and evaluate the pros and cons of the various techniques for obtaining overlay management, including fees and costs to the client • Consider and evaluate the best class of funds suitable for a client account

4. Portfolio Construction and Strategies		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	• The use of ETFs and platform traded funds (PTFs), including: o Key features o Advantages and disadvantages • Wrap products, including: o Wrap funds o Wrap accounts o Fund of funds • Overlay management o Pros and cons o Separately managed accounts (SMA) o Unified managed accounts (UMA) o Unified managed household accounts (UMHA)	
IX. International investing	• Major international equity benchmarks • Advantages and disadvantages of international investing • Ways to invest internationally, including o Private placement o Publicly traded shares of individual foreign companies o American depository share (ADS) o Mutual funds o ETFs • Other considerations, including: o Additional costs and expenses o Implications of home country bias and Canadian market relative size o Foreign trading and settlement conventions	• Conduct due diligence and consider international investments into an asset allocation plan as suitable for the client

4. **Portfolio Construction and Strategies**		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	○ Foreign withholding taxes and implications based on account types and investment ○ Foreign currency exchange costs ○ Impact of conversion spreads ○ Foreign currency hedging costs ○ Different volatility levels of international markets ○ Foreign regulatory restrictions • International tax conflicts and double taxation • Recoverable vs. unrecoverable foreign withholding tax costs in different account types (taxable, RRSP, TFSA, etc.) • Sources of international tax law and how they interrelate • Tax treaties • Jurisdictional tax requirements as they relate to residency • Source country taxation • Tax relief exemptions under domestic tax law	

5. Portfolio Monitoring, Evaluation, and Client Reporting		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
I. Portfolio monitoring	• Effective portfolio monitoring system, including: ○ Continuous monitoring for compliance with client's objectives and other financial circumstances ○ The importance of communication with clients about changes that have affected their portfolio	• Establish and implement an effective system to monitor client portfolios • Review for consistency with IPS, KYC and other relevant information • Consider the changes in economic environment • Communicate with clients as appropriate, utilizing the firm's contact management system • Consider the limitations of the APM role before making changes to the portfolio
II. Evaluation of investment risk	• Capital asset pricing model • Arbitrage pricing theory/multi-factor asset pricing models • Systematic risk or market risk • Other priced risks (company size, relative price, etc.) • Unsystematic risk or non-market risk • Common risks faced by clients, including ○ Inflation or purchasing power ○ Credit risk ○ Liquidity risk ○ Currency risk • Measures of historic risk • Measures of expected risk • Measures of investment risk, including: ○ Standard deviation of returns ○ Beta, including multi-factor analysis of different forms of beta ○ Semi-deviation	• Evaluate a portfolio's investment risk using various measures • Assess and implement the appropriate strategies to reduce a portfolio's investment risk • Determine portfolio's exposure to known risk factors • Rebalance the portfolio's investment risk, as needed • For an APM, seek pre-approval from the PM as required prior to making any changes to the portfolio

5. Portfolio Monitoring, Evaluation, and Client Reporting		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	• Considerations to reduce a portfolio's investment risk, including: ○ Diversification strategy ○ Correlation coefficient ○ Efficient frontier ○ Options strategies ○ Use of futures contracts	
III. Portfolio performance evaluation	• Calculation of a portfolio's return using: ○ Dollar-weighted return ○ Time-weighted return ○ Pre-tax versus post-tax return ○ Pre-fee versus post-fee return • Performance appraisal and benchmark comparisons, including: ○ Characteristics of an appropriate benchmark ○ Classes of benchmarks ○ Advantages and disadvantages • Multi-factor benchmarking • Matching multi-factor benchmark to manager based on style • Use of comparison or performance universes • Problems associated with comparison universes, including: ○ Poorly defined comparison universes ○ Survivorship bias • Evaluation of a portfolio's performance using: ○ Performance attribution analysis, including: ▪ Sector attribution factors ▪ Performance attribution styles	• Assess and evaluate the performance of a client portfolio using various measurement and appraisal strategies • Using performance attribution analysis, assess and evaluate a managed portfolio's overall return into various decision components to determine value-added and areas for improvement • Analyze how style drift affects attribution analysis

5. Portfolio Monitoring, Evaluation, and Client Reporting		
SUB COMPETENCY	**KNOWLEDGE** **For PMs to apply and APMs to consider and apply as applicable**	**BEHAVIOURS AND SKILLS** **For PMs to apply and APMs to consider and apply as applicable**
	○ Risk-adjusted return measures ▪ Jensen's alpha ▪ Treynor ratio ▪ Sharpe ratio ▪ Multi-factor alpha	
IV. Client portfolio reporting	• Standardized performance presentation guidelines • Global Investment Performance Standards (GIPS) ○ Key aspects, including information about: ▪ Firm and responsibilities of the firm ▪ Composite requirements ▪ Data used to determine performance calculations ▪ Calculation methodologies ▪ Presentation and reporting guidelines • Portfolio management reports: ○ Information included ○ Frequency ○ Tax implications • Discrepancies between portfolio manager reports and periodic regulatory client statements	• Apply performance presentation guidelines and standards when presenting information and portfolio management reports to clients • Identify and reconcile any discrepancies in the portfolio management reports generated, and escalate as needed

6. Servicing Institutions		
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I. Institutional portfolio management	• Service channels/Investment product structures, including pooled investment vehicles
	○ Institutional Investor and client types, including
	  ○ Pension plans
	  ○ Mutual funds
	  ○ Insurance companies
	  ○ Endowments
	  ○ Charitable foundations
	  ○ Family trusts/estates
	  ○ Corporate treasuries
	• KYC and suitability rules in dealing with institutional clients
	• Fiduciary duty and institutional investment funds, including:
	  ○ The named fiduciary in the trust indenture or fund's documents
	  ○ Fund's board of trustees
	  ○ Fund's administrative committee
	  ○ Carrying out duties prudently
	• Fiduciary duty and corporate pension plans, including:
	  ○ Who is and can be a fiduciary
	  ○ Business decision vs fiduciary action
		• Identify the difference between servicing retail clients compared to institutional clients
		• Adhere to investment mandates and regulatory requirements when dealing with various types of institutional clients
		• Consider the use of different asset classes including alternative investments, their valuation and correlation within a portfolio
		• Consider special fiduciary duty owed to investment funds and other institutional clients

II. Management of funds	• Regulatory requirements applicable to each type of fund including mutual funds, pooled funds, ETFs, and other similar funds	• Assist or manage a Canadian Mutual Fund or pooled fund in compliance with regulatory requirements and the investment mandate

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	• Fund compliance and risk control process and procedures • Creation and implementation of investment mandate • Investment monitoring procedures	• Assist with the implementation and maintenance of risk controls and monitoring procedures • Prepare investment and fund compliance reports to satisfy institutional investor needs and requirements • Consider how the fund may be reviewed by potential investors and other firms for their product due diligence process • Consider the difference in the regulatory requirements applicable to each type of fund
III. New investment products	• New investment product development process, including: ○ Key steps ○ New product development committee ○ Project management committee ○ Benchmark selection ○ Common design factors for investment guidelines and restrictions, including: ▪ Investment objectives ▪ Passive versus active management ▪ Portfolio management style ▪ Sector restrictions ○ Unique factors in equity mandate design, including: ▪ Capitalization ▪ Sector or industry specific funds ▪ Dividend yielding securities ▪ Cash and short-term investments ▪ Covered call writing ▪ Short sales	• Consider the key factors in creating new investment products, funds, or model portfolios • Consider investment guidelines and restrictions of investment products

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	○ Unique factors in fixed income mandate design, including: ▪ Sector-specific mandates ▪ Credit quality ▪ Term to maturity ○ Unique factors in balanced fund mandates, including: ▪ Target asset mix policy • Development of model portfolios ○ Strategic versus tactical asset mix strategy	