



Canadian Institute  
of Actuaries  
EDUCATION

Institut canadien  
des actuaires  
ÉDUCATION

# FCIA SYLLABUS

## Retirement benefits track



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# Fellow exams syllabuses

## FCIA exams syllabuses overview

### Background

In June 2021, the CIA Board approved [new qualification pathways](#) to ACIA (Associate, CIA) and FCIA (Fellow, CIA) designations, including CIA-drafted examinations and modules. Five FCIA-level education tracks are available to candidates. All FCIA tracks include three exams and two modules. This document outlines the group benefits (GB) track exams and modules syllabuses.

Exams are administered as an open-book, four-hour exam requiring analysis in the context of a problem and submission of written responses to specific questions. Candidates will complete the exam through the CIA's learning management system. The ranges of weights (expressed in parentheses) attached to the examination topics further below apply to most of exams administered. Candidates should also recognize that questions often cover multiple learning objectives, including communication.

### Education tracks

For information, the table below outlines the Fellow level exams applicable to each track:

Track	Exams
Individual life and annuities (ILA)	F1ILA: Finance and Valuation F2ILA: Product Design F3ILA: Risk Management
Property and casualty (PC)	F1PC: Pricing F2PC: Estimating unpaid claims and financial reporting under IFRS 17 – <i>Insurance Contracts</i> F3PC: ERM, Economic Capital Modeling and Stress and Scenario Testing
Group benefits (GB)	F1GB: Product Design and Group Benefits Environment F2GB: Group Benefits Product Pricing F3GB: Group Benefits Reserving
Finance, investments and ERM (FIE) with option in banking	F1FIE: Financial Products F2FIE: Valuation and Financial Considerations F3FIE: Risk Management <i>or</i> F3BNK: Banking Applications
Retirement benefits (RET)	F1RET: Pension Funding and Regulation F2RET: Financial Reporting F3RET: Pension Risk Management

## Bloom's taxonomy description

The CIA exam syllabuses set out the depth of knowledge and application required, using revised Bloom's taxonomy of education objectives. For comparison purposes, the development of the IAA Education Syllabus is also based on the revised Bloom's taxonomy. This model reflects two dimensions: the knowledge dimension and the cognitive process dimension. This framework is widely used and respected by educators worldwide.

Revised Bloom's Taxonomy (RBT)  
Cognitive Process Dimension

Verbs	1	2	3	4	5	6
Objects	REMEMBER Recognize, Recall	UNDERSTAND Interpret, Exemplify, Classify, Summarize, Infer, Compare, Explain	APPLY Execute, Implement	ANALYZE Differentiate, Organize, Attribute	EVALUATE Check, Critique	CREATE Generate, Plan, Produce
A. Factual Knowledge	A1	A2	A3	A4	A5	A6
B. Conceptual Knowledge	B1	B2	B3	B4	B5	B6
C. Procedural Knowledge	C1	C2	C3	C4	C5	C6
D. Metacognitive Knowledge	D1	D2	D3	D4	D5	D6

**Factual knowledge:** Basic information; includes relevant information such as terminology and knowledge of applicable details of the subject matter.

**Conceptual knowledge:** The relationships between topics of a broader structure that make them function together. Consists of systems of information, such as classifications and categories.

**Procedural knowledge:** How to apply knowledge; includes algorithms, heuristics (rules of thumb), techniques, and methods, as well as knowledge about when to use these procedures.

**Metacognitive knowledge:** Knowledge of thinking in general and in particular. Refers to knowledge of thinking processes and information about how to manipulate these processes effectively.

Given the open book nature of the exams, it was established that the exams syllabuses would reflect higher levels learning, according to the following guidelines. Basic knowledge serves to lay the foundation of the exam questions.

	Remember	Understand	Apply	Analyze	Evaluate	Create
<b>Factual</b>	A1	A2	A3	A4	A5	A6
<b>Conceptual</b>	B1	B2	B3	B4	B5	B6
<b>Procedural</b>	C1	C2	C3	C4	C5	C6
<b>Metacognitive</b>	D1	D2	D3	D4	D5	D6

First level	A1, A2, B1, B2
Second level	A3, A4, B3, B4, C1, C2, C3, D1, D2, D3
Third level	A5, A6, B5, B6, C4, C5, C6, D4, D5, D6

# Retirement benefits track exams

## Exam F1RET: Pension Funding and Regulation

The aim of this exam is for candidates to develop the following skills:

1. Understand the main provisions, principles, regulation, professional standards, governance, and techniques of funding and administration applicable to retirement benefits.
2. Apply these principles and techniques within the context of pension plans.
3. Evaluate hypothetical scenarios, including using judgment to assess the implications of possible actions and to develop appropriate proposals or recommendations relating to the funding and administration of pension plans.

### 1. Principal terms

1. Define principal terms used in the funding and regulatory environment of retirement benefits. (A1).

### 2. Retirement benefits and pension mathematics (30%)

1. Describe and analyze the features of traditional defined benefit plans and defined contribution plans. (C4)
2. Describe and analyze the structure of the following plan types: (C4)
  - a. Traditional defined benefit plans.
  - b. Defined contribution and savings plans.
  - c. Hybrid plans.
  - d. Multi-employer pension plans.
  - e. Other alternative retirement plans such as shared-risk plans, target-benefit plans, and jointly sponsored pension plans.
3. Perform periodic valuations of ongoing plans, calculating normal cost, actuarial liability, and gains and losses, using a variety of cost methods: (C3)
  - a. Unit credit and projected unit credit.
  - b. Entry age normal.
  - c. Individual level premium.
  - d. Aggregate.
  - e. Attained age normal.
4. Compare and contrast methods described in 2. and determine their appropriateness factoring in the plan sponsor's objectives and regulatory requirements. (D5)
5. Calculate actuarially equivalent benefits, subsidized benefits, and other ancillary benefits. (C3)

### 3. Pension legislation (30%)

1. Describe and apply federal and provincial pension benefit acts and regulations. (B3)
2. Describe and apply the various retirement benefit arrangements available to a plan sponsor. (B3)
3. Describe and apply applicable agreements respecting multi-jurisdictional pension plans between provincial regulators. (C5)
4. Recognize, define, interpret, apply, calculate, and evaluate minimum standards in respect of the following provisions of registered pension plans: (C5)
  - a. Eligibility requirements.
  - b. Retirement benefit formula (uniform accrual and integration with government benefits).
  - c. Employer cost (50 percent cost rule).
  - d. Interest credited on member contributions.
  - e. Termination benefits such as commuted values.
  - f. Death benefits.
  - g. Spousal protection.
  - h. Vesting and locking-in provisions.
  - i. Portability (LIFs, RIFs).
  - j. Pension credit splitting upon marriage breakdown.
  - k. Retirement age.
  - l. Disclosure requirements/privacy/rights to information.
  - m. Statement for members (annual or at retirement/termination).
  - n. Indexation of pensions.
  - o. Decumulation.
  - p. Pension fund investment requirements.
  - q. Remittance of contributions.
  - r. Statutory required benefits (such as grow-in benefits in Ontario).
5. Produce funding requirements under applicable provincial and federal minimum standard legislation considering: (C6)
  - a. Going-concern basis.
  - b. Solvency/hypothetical wind-up.
  - c. Plan termination.
  - d. Plan mergers and asset transfers.
  - e. Plan conversion.
  - f. Temporary funding relief measures.
  - g. Use of letters of credit.
  - h. Additional mandated liabilities.
  - i. Solvency reserve accounts.
  - j. Stabilization provisions and smoothing techniques.
  - k. Plan amendments.
  - l. Restrictions on benefit payouts.
6. Apply, analyze, and evaluate the following: (C5)
  - a. Partial/full plan termination.
  - b. Plan mergers and asset transfers.
  - c. Plan conversion.
  - d. Plan amendments.
  - e. Surplus ownership/contribution holiday.
  - f. Funding relief measures.
  - g. Frequency of valuation.

- h. Use of letters of credit.
  - i. Use of solvency reserves account.
7. Outline the following different filing requirements and reports, including: (B2)
- a. Annual Information Return (AIR).
  - b. Actuarial Valuation Report and Actuarial Information Summary (AIS).
  - c. Pension Benefits Guarantee Fund (PBGF) Assessment.
  - d. Other provincially legislated forms (e.g., Financial Statement and Form 8 – Investment Information Summary/Form 7 – Summary or Revised Summary of Contributions).
  - e. Relevant policies and guidance from pension regulators.
  - f. Member communications, including annual benefit statements, termination, and retirement election forms.

#### 4. Income tax legislation and regulation (30%)

1. Apply and analyze rules and provisions outlined in the following: (C3)
- a. *Income Tax Act* and Regulations (pension/retirement savings sections only);
  - b. Information circulars, FAQs, and interpretation bulletins (pension-related only);
  - c. Canada Revenue Agency (CRA) Registered Plans Directorate bulletins, newsletters, and technical manuals;
  - d. CRA pension-related forms and guides;
  - e. Types of registered retirement savings plan (RRSP)/pension plans (defined benefit/defined contribution/hybrid/combination), and overall individual/plan-specific limits;
  - f. Permissible funding arrangements;
  - g. Permissible benefits;
  - h. Retiring allowance;
  - i. Pension adjustment (PA), past-service pension adjustment (PSPA), and pension adjustment reversal (PAR);
  - j. Plan registration rules;
  - k. Limits on registered defined benefit plan benefits;
  - l. Permissible distributions and transfers;
  - m. Deductibility of contributions;
  - n. Allowable surplus;
  - o. Phased retirement;
  - p. Shared-risk plans;
  - q. Jointly sponsored pension plans (JSPPs);
  - r. Multi-employer pension plans (MEPPs) and specified multi-employer plans (SMEPs);
  - s. Flexible pension plans;
  - t. Group RRSP/deferred profit-sharing plan (DPSP)/employee profit-sharing plan (EPSP)/tax-free savings account (TFSA)/supplemental executive retirement plan (SERP)/retirement compensation arrangement (RCA); and
  - u. Reporting and filing requirements.
2. Outline the filing process of T244 (or part of Joint AIR), trust filings (T3D/T3P/T3-RCA). (C3)
3. Outline the reporting and calculation process of PAs, PSPAs, and PARs (C3)
4. Analyze and recommend plan-design features compliant with tax legislation. (D5)
5. Apply, analyze, and evaluate features and rules governing maximum funding valuation/specified individuals/designated plans/individual pension plans. (C5)

## 5. Professionalism and standards of practice relative to plan funding (10%)

1. Apply the standards related to communications to plan sponsors and others with an interest in an actuary's results (i.e., participants, auditors, etc.). (C3)
2. Explain and apply the professional conduct guidelines. (B3)
3. Explain and apply relevant qualification standards. (B3)
4. Demonstrate compliance with requirements regarding the actuary's responsibilities to participants, plan sponsors, etc. (B2)
5. Explain and apply all of the applicable standards of practice related to valuing pension benefits. (C3)
6. Recognize situations and actions that violate or compromise standards or professional conduct guidelines. (B2)
7. Recommend a course of action to repair a violation of standards or professional conduct guidelines. (D6)
8. Outline differences between pension commuted values and capitalized value for marriage-breakdown purposes. (B2)
9. Consider, assess, and decide on provisions for adverse deviations (PfADs) or statutory margins in going-concern valuations. (C5)
10. Describe and apply the techniques used in the development of going-concern economic and demographic assumptions. (C5)
11. Calculate and develop incremental cost on a hypothetical wind-up or solvency basis, sensitivity analysis, and plausible adverse scenarios. (C3)
12. Outline and apply CIA *Guidance on Asset Valuation Methods*. (C3)
13. Interpret and apply CIA *Consolidated Standards of Practice*, educational notes, and guidance provided by relevant CIA committees. (C3)



## Exam F2RET: Pension Financial Reporting

The aim of this exam is for candidates to develop the following skills:

1. Understand the main principles and techniques of financial reporting relevant to retirement benefits.
2. Apply these principles and techniques within the context of pension plans.
3. Evaluate hypothetical scenarios, including using judgment to assess the implications of possible actions and to develop appropriate proposals or recommendations relating to financial reporting of pension plans.

### 1. Principal terms

1. Define principal terms used in the financial reporting environment of retirement benefits. (A1).

### 2. Accounting standards (30%)

1. Recognize, define, calculate, and interpret financial-statement components: balance sheet/profit-and-loss statement/changes in other comprehensive income/notes to financial statements. (B3)
2. Compare and contrast applicable accounting standards. (B4)
3. Evaluate recognition of liability/accounting expense. (C5)
4. Apply actuarial cost methods. (C3)
5. Analyze and decide on actuarial assumptions relative to pension and other post-employment benefits. (C4)
6. Consider and apply allocation, attribution, and vesting. (B4)
7. Recognize and evaluate benefit changes. (B5)
8. Recognize and evaluate assumption changes. (B5)
9. Evaluate recognition and amortization of past service costs. (C5)
10. Evaluate recognition and amortization of actuarial gains and losses. (C5)
11. Recognize and appraise curtailment, settlement, and annuity purchase. (C5)
12. Recognize and calculate termination benefits, business discontinuance, and a combination of both. (C5)
13. Differentiate and distinguish the accounting treatment applicable to shared-risk or multi-employer pension and benefit plans. (C4)
14. Recognize and apply IAS 19 disclosure requirements. (C3)
15. Recognize and apply FASB disclosure requirements. (C3)
16. Recognize and apply IFRIC 14 adjustments and asset ceiling. (C3)
17. Outline and apply the CIA/CICA *Joint Policy Statement*. (C3)
18. Analyze and evaluate accounting impacts of transactions such as mergers, acquisitions, and purchase price adjustment. (C5)

### 3. Reporting of pension, post-employment benefits, and post-retirement benefits for financial statement and proxy circular purposes (25%)

1. Describe, explain, and understand the different components of executive compensation, such as: (B3)
  - a. Salary.
  - b. Short- and long-term compensation incentives (performance share units, stock options, stock appreciation rights, deferral plans), pensions, group benefits, share purchase plan, perquisites, and severance/change-in-control agreements.
2. Define the purpose of executive compensation and explain its governance practices, including proxy circulars. (B2)
3. Interpret and apply the *CPA Canada Handbook*. (B3)
4. Interpret and apply IAS 19 and IFRIC 14. (C3)
5. Understand the concept of accrual versus cash basis for pension plan assets. (B2)
6. Differentiate audited financial reports and audited financial statements. (C4)
7. Understand and use audited financial statements and reports: (C3)
  - a. versus financial reports from custodians; and
  - b. concerning how residual benefits are treated.

### 4. Investments and asset allocation (20%)

1. Assess the different types and combinations of investment vehicles for providing retirement benefits given the particulars of a stakeholder's financial circumstances, philosophy, industry, workforce, and benefit package. (C5)
2. Distinguish the various strategies, approaches, and techniques used to manage retirement fund assets. (C5)
3. Assess a statement of investment policy including how environmental, social, and governance (ESG) factors should be integrated in the investment process. (C5)
4. Assess the potential effects of various investments and investment policies on stakeholders, including tax implications. (C5)
5. Describe the regulatory restrictions on, and guidelines for, retirement plan assets. (B2)
6. Solve for a measure of investment performance relevant to a given benchmark. (C5)

### 5. Pension governance and fiduciary duties (15%)

1. Describe the roles of plan administrator, board of trustees, and pension committee. (B2)
2. Describe the role of pension advisory authorities. (B2)
3. Define, describe, and interpret benefit rights. (B2)
4. Identify, assess, and evaluate funding obligations/responsibility for deficits. (C5)
5. Interpret, analyze, and assess the right to surplus. (D5)
6. Recognize and apply family law and marriage-breakdown requirements. (C3)
7. Recognize and interpret basic principles of trust law. (C3)
8. Consider and apply bankruptcy and insolvency legislation. (C3)
9. Consider and apply employment standards legislation. (C3)
10. Consider and apply human-rights legislation. (C3)
11. Consider and apply key pension case law, jurisprudence, and legal opinions such as Monsanto, Indalex, McCarthy Tétrault legal opinion on implications of climate-related risks for Canadian pension plan fiduciaries and policymakers, etc. (C3)

12. Demonstrate an understanding of regulator guidance and context for different approaches to responsible investment and, specifically, the integration of ESG factors in the investment process. (C3)
13. Demonstrate an understanding of the underlying issues that constitute factors within each of the ESG areas. (C3)
14. Demonstrate an understanding of the ESG market: relevance, size, scope, key drivers and challenges, and risks and opportunities. (C3)

#### **6. Professionalism and standards of practice relative to plan accounting (10%)**

1. Apply the standards related to communications to plan sponsors and others with an interest in an actuary's results. (C3)
2. Explain the professional conduct guidelines. (B3)
3. Explain relevant qualification standards. (B3)
4. Demonstrate compliance with requirements regarding an actuary's responsibilities to plan sponsors, plan members, etc. (D5)
5. Explain and apply all relevant standards of practice related to valuing retirement and other benefit obligations. (C3)
6. Recognize situations and actions that violate or compromise standards of professional conduct guidelines. (B2)
7. Recommend a course of action to repair a violation of the standards or professional conduct guidelines. (D5)

## Exam F3RET: Pension Risk Management

The aim of this exam is for candidates to develop the following skills:

1. Understand the main principles and techniques of enterprise risk management (ERM) and investment risk management that are relevant to retirement benefits.
2. Apply these principles and techniques within the context of pension plans.
3. Evaluate and propose recommendations related to the risk management of pension plans.
4. Evaluate hypothetical scenarios, including using judgment to assess the implications of possible actions.

### 1. Principal terms

1. Define principal terms used in ERM. (A1)

### 2. ERM concept, framework, and process (15%)

1. Apply the concept of ERM. (D3)
2. Describe and understand the framework for risk management and control. (C2)
3. Describe the perspectives of credit-rating agencies. (B2)
4. Reflect data issues in general and special considerations with respect to ERM. (C3)
5. Demonstrate how to determine and articulate: (C3)
  - a. Risk appetite.
  - b. Risk identification.
  - c. Risk assessment.
  - d. Risk monitoring.
  - e. Risk limits.
  - f. Risk mitigation.
  - g. Risk capacity.
  - h. Risk tolerances.
  - i. Desired risk profile.
  - j. Risk objectives.
  - k. Risk reporting.
6. Assess the implications of financial and other risks and opportunities for strategic planning. (C4)
7. Describe the risk management control cycle, including the relevance of external influences and emerging risks. (C2)
8. Utilize methods to identify risks and their causes and implications. (D4)

### 3. Risk categories and risk identification (15%)

1. Explain what is meant by risk and uncertainty, including different definitions and concepts of risk. (B2)
2. Describe risk taxonomy, including an awareness of how individual risks might be categorized in different ways. (B1)
3. Describe common risks faced by pension plans insurers, including: (B2)
  - a. Interest rate risk.
  - b. Credit risk.

- c. Market risk.
  - d. Liquidity risk.
  - e. Mortality risk.
  - f. Operational risk.
  - g. ESG and climate-related risks.
  - h. Foreign-exchange risk.
  - i. Regulatory risk.
  - j. Political risk.
  - k. Demographic risk.
  - l. Strategic risk.
  - m. Asset/liability duration mismatch risk.
4. Analyze the relationship between systemic risk vs. non-systemic and specific risk vs. concentration of risk.

#### 4. Investment risk management (25%)

1. Identify and assess the sources of investment risk applicable to retirement fund assets. (C3)
2. Evaluate the interaction of plan investments with plan design, valuation, accounting, and funding. (C5)
3. Evaluate the interaction and relationship between plan investments and valuation assumptions/methods. (C5)
4. Evaluate how factors including cash-flow requirements, various plan designs, and various economic environments affect setting investment strategy. (B5)
5. Apply and evaluate strategies and techniques for asset/liability management. (D5)
6. Provide advice and analysis to plan sponsors regarding the mitigation of pension plan risks. (D6)
7. Given a context, interpret a statement of investment policy and evaluate if changes are required. (C5)
8. Given a context, interpret a statement of funding policy and evaluate if changes are required. (C5)

#### 5. Risk management and financial economics (10%)

1. Compare and analyze the interests of plan sponsors, employees, shareholders, taxpayers, and other stakeholders related to the financial management of a retirement plan. (C4)
2. Analyze how the retirement plan's financial and design risks integrate with the sponsor's risk management strategy. (C4)
3. Analyze how the retirement plan integrates with the sponsor's overall financial position. (C4)
4. Understand and apply the principles of financial economics with respect to pension plan investing. (C3)
5. Provide advice and analysis to stakeholders regarding the economic assumptions used in the valuation of their retirement plans. (B6)
6. Provide advice and analysis to various stakeholders regarding the mitigation of pension plan risks. (B6)

## 6. Mathematics of financial risks (10%)

1. Understand how predictive analytics are used in retirement applications. (C3)
2. Understand and analyze properties of financial time series. (C4)
3. Understand and analyze stochastic models. (C4)
4. Analyze stochastic modelling from a regulatory requirement perspective. (C4)
5. Calculate and describe the concept of duration, convexity, and immunization. (B4)
6. Understand and apply plausible adverse scenarios. (C3)

## 7. Pension plan de-risking (25%)

1. Design and construct replication portfolios using available assets or products to defray risk. (C6)
2. Apply immunization strategies using duration and convexity. (C3)
3. Identify, evaluate, and manage longevity risk. (B5)
4. Analyze, evaluate, and construct glide paths in order to de-risk a pension plan. (C6)
5. Analyze, evaluate, and create margins in assumptions in order to de-risk a pension plan. (C6)
6. Evaluate and apply change in plan provisions in order to de-risk a pension plan. (C6)
7. Consider, assess, and design target-benefit pension plans and shared risk pension plans. (C6)
8. Apply the process relative to annuity purchases: (D5)
  - a. Annuities buy-ins versus buyouts.
  - b. Legal requirements.
  - c. Contribution requirements.
  - d. Transfers in kind.
  - e. Legal contract reviews.
  - f. Coordination among annuity providers.
  - g. Conversion from annuity buy-in to buyout.
  - h. Discharge of liabilities under applicable legislation.
9. Describe how Assuris protection can be optimized. (B2)
  - a. Calculate and consider the impact of ancillary benefits (e.g., indexation, survivor benefits, etc.). (C4)
10. Apply legislative requirements to plan provisions allowing annuity purchases. (C4)

# Retirement benefits track modules

## FCIA modules syllabuses overview

### Background

FCIA modules enable candidates to acquire and apply knowledge that is electronically administered. The CIA's learning management system serves as the overarching framework from which candidates obtain information on resources and activities required to complete the modules. Candidates will navigate through the materials by:

- Reading the screens;
- Linking to PDF files, Excel files, and published material;
- Reviewing examples;
- Visiting other websites, viewing demonstrations and graphical images;
- Making decisions and selections around targeted scenarios or case studies; and
- Completing specified assessments, where applicable.

Module participants are expected to come from a wide array of educational and career backgrounds. Some will be ACIAs or have obtained a recognized Fellow-level designation, and have:

- Demonstrated knowledge of the fundamental concepts and techniques for modelling and managing risk.
- Learned the basic methods of applying fundamental concepts and techniques to common problems involving uncertain future events, especially those with financial implications.
- Completed a professionalism course covering the importance of adherence to recognized standards of practice and the CIA *Rules of Professional Conduct* or some other professional code of conduct.

The primary audience for the FCIA modules is individuals who desire to be admitted as Fellows of the CIA. Individuals seeking continuing professional development credit can also register for the FCIA modules.

Each FCIA candidate through Pathways 1 and 2 is required to complete both FCIA modules, while Pathway 3 candidates will have to complete the second module. It is anticipated that FCIA module candidates will have six months from the date of module purchase to complete each FCIA module. As a general guideline, candidates should allocate approximately 100 hours to complete all activities included in a module.

# RET Module 1: Actuarial work and retirement benefits applications

## 1. Introduction to risk and insurance

1. Describe risk including insurable risk.
2. Provide examples of types of insurable risks and classes of life insurance that respond to insurable risk.
3. Describe and provide examples of perils and hazards.
4. Explain the conflicts that can arise in the objectives of risk management.
5. Identify and describe the five steps of the risk management process:
  - a. Step 1 – Identifying and analyzing exposures.
  - b. Step 2 – Formulating options.
  - c. Step 3 – Selecting the best technique.
  - d. Step 4 – Implementing the risk management plan.
  - e. Step 5 – Monitoring results and modifying the plan.

## 2. Insurance categories and functions

1. Describe the basic insurance relationship of pooling funds to pay losses.
2. Explain the major functions of insurance:
  - a. Spread of risk.
  - b. Aid to security.
  - c. Aid to credit.
  - d. Loss prevention.
  - e. Source of capital.
  - f. Source of employment.
3. Identify and describe categories of insurance.
4. Identify and describe categories of retirement schemes.
5. Describe the different forms of insurance companies (e.g., stock companies, mutuals, government insurers, captive insurance companies).
6. Explain financial stability and returns for insurers, including the differences for stock companies and mutuals.

## 3. Insurance company operations

1. Describe the major functions of an insurance company, including:
  - a. Finance, accounting, and investment.
  - b. Actuarial.
  - c. Marketing, agency, or production.
  - d. Underwriting.
  - e. Claims.
  - f. Reinsurance.
  - g. Risk management.
2. Describe basic insurance administration and how actuaries are involved.
3. Describe underwriting regimes, applications for insurance, preferred criteria, and screening tests, and how they relate to selection of risk.
4. For reinsurance:



- a. Explain the purpose of reinsurance.
  - b. Describe the primary methods and types of reinsurance.
  - c. Describe the main reinsurance contract provisions.
5. Describe the roles and responsibilities of actuaries in insurance companies.

#### 4. Consulting firm operations

1. Describe the traditional functions of a consulting firm:
  - a. Administration and consulting of pension plans.
  - b. Filing requirements.
  - c. Actuarial valuation and financial reporting requirements.
  - d. Benefit plan design and amendments.
  - e. Audit and peer review.
  - f. Appointed Actuary tasks and responsibilities.
  - g. Product design and pricing.
  - h. Negotiation of premium rates.
  - i. Sales and distribution of insurance.
  - j. Third-party administration.
  - k. Risk management.
2. Describe the roles and responsibilities of actuaries in consulting firms.

#### 5. The insurance marketplace

1. Describe basic insurance products:
  - a. Life insurance and annuities.
  - b. Property and casualty (P&C).
  - c. Health and group insurance.
  - d. Government-sponsored and public plans:
    - i. Employment Insurance.
    - ii. Workers' compensation.
    - iii. Health care.
    - iv. Pension plans.
2. Describe key issues related to customers of insurance products.

## 6. Actuaries in corporations

1. Describe the traditional functions of an actuary operating in corporations, including role and responsibilities within these functions:
  - a. Retirement benefits.
  - b. Compensation.
  - c. Health and benefits.
2. Understand the importance of global compensation for a corporation, including its impact on hiring, retention, attrition, succession planning, etc.
3. Understand the different departments within a company that interact with global compensation actuaries, such as:
  - a. Finance.
  - b. Accounting.
  - c. Legal.
  - d. Human resources (HR), including labor relations (LR).
4. Outline the roles and responsibilities of actuaries in company departments identified in 3. within the global compensation strategy, such as:
  - a. Actuarial valuations for accounting purposes.
  - b. Financial forecasting and reporting.
  - c. HR and LR strategies.
  - d. Plan text drafting and amendments.
  - e. Proxy circulars.
  - f. Participation in committees.

## 7. The Canadian retirement environment and professionalism

1. Describe and understand the three pillars of the Canadian retirement system and their utilization to optimize personal wealth and retirement income.
  - a. Public plans such as the Canada Pension Plan and Québec Pension Plan.
  - b. Employer-sponsored plans.
  - c. Personal savings.
    - i. Registered vehicles such as RRSP and TFSA.
    - ii. Non-registered savings.
2. Explain how employer-provided plans coordinate with public plans in Canada.
3. Analyze the challenges facing public plans in Canada.
  - a. Evaluate alternative proposals for facing those challenges.
4. Determine the aggregate benefit to the employee from an employer-provided and public plan.
5. Describe how public retirement benefits, personal savings, and employer pension plans can be used to maximize benefits and manage longevity risks.
6. Understand the Canadian retirement legislative framework.
7. Understand the role and responsibilities of the actuary in the Canadian retirement system.
8. Describe and explain how guarantee funds such as Assuris and Ontario's Pensions Benefits Guarantee Fund (PBGF) operate.
9. Understand the application of the *CIA Standards of Practice and Rules of Professional Conduct*.

## 8. The U.S. retirement environment and professionalism

1. Understand the retirement system in the United States.
2. Understand the U.S. retirement legislative framework.
3. Explain how employer-provided plans coordinate with social insurance plans in the United States.
4. Determine the aggregate benefit to the employee from an employer-provided and social insurance plan.
5. Explain and apply guidelines to Professional Conduct.
6. Explain and apply relevant qualifications standards.
7. Explain and apply the applicable standards of practice related to valuing retirement obligations.
8. Compare the Canadian and U.S. retirement systems.

## 9. Principles of actuarial evidence

1. Describe the role of actuaries in family law, including the valuation of pension plan benefits in marriage (relationship) breakdown.
2. Describe the role of actuaries in civil litigation, including damages in personal injuries, fatalities, wrongful termination, insurance and reinsurance disputes, pension disputes, and other litigation.
3. Describe the role conferred to actuaries by the Criminal Code of Canada in calculating the criminal rate of interest.
4. Describe and distinguish the roles and responsibilities of a fact witness, an expert witness, and a provider of litigation advice.
5. Describe the context provided by the common law, legislation, and the rules of civil procedure on actuarial evidence practice.
6. Describe the role of *CIA Rules of Professional Conduct and Standards of Practice* (Part 1000, general, and Part 4000, actuarial evidence) in guiding the professionalism of actuarial evidence practice. Show awareness of the importance of professionalism for actuaries whose actuarial evidence practice is incidental to full-time practice in another actuarial practice area, such as insurance or pensions.
7. Describe the functions fulfilled by other professionals in the litigation area, such as life-care planners, vocational experts, accountants, economists, engineers, personal financial planners, business valuers, appraisers, and structured settlement brokers, and how these professionals complement and compete with the function of actuaries in actuarial evidence.

## RET Module 2: Professional considerations in the retirement benefits environment

### 1. Canadian pension legislation

1. Describe federal and provincial pension benefit acts and regulations.
2. Understand the various retirement benefit arrangements available to a plan sponsor.
3. Describe and apply applicable agreements respecting multi-jurisdictional pension plans between provincial regulators.
4. Recognize, define, interpret, and apply minimum standards of registered pension plans.
5. Describe funding requirements under applicable provincial minimum standard legislation.
6. Outline and understand the different filing requirements for registered pension plans.

### 2. Pension plan projections

1. Understand various assumptions needed for a forecast.
2. Understand the basics of climate science and its impact on the work of actuaries.
3. Understand the different approaches to liability forecasting.
4. Understand the different approaches to asset forecasting.
5. Describe the process to conduct climate scenario analysis for pension plans.
6. Design and construct replication portfolios using available assets or products to mitigate risk.
7. Evaluate various governmental rules and policies given a hypothetical regulatory framework.
8. Analyze the investment strategy of a provider of benefits, taking into account:
  - a. any asset/liability matching requirements;
  - b. the trade-off between risk and reward;
  - c. an awareness of adding value to the shareholders of the business; and
  - d. integration of ESG factors.
9. Describe how projection models may be used to develop strategies.
10. Evaluate risk-sharing and liability transfer transactions.
11. Assess the components of dynamic rebalancing.
12. Analyze a forecast study in the context of actuarial standards of practice in Canada.

### 3. Pension plan de-risking

1. Understand and describe how glide paths are used as a de-risking tool.
2. Discuss how margins in assumptions can be used as a de-risking tool.
3. Discuss how change in plan provisions can be used as a de-risking measure.
4. Consider, assess, and design target-benefit pension plans and shared-risk pension plans.
5. Interpret, analyze, and apply jurisprudence and legal environment.
6. Understand the process relative to annuity purchases:
  - a. Annuities buy-ins versus buyouts.
  - b. Legal and contribution requirements.
  - c. Transfers in kind.

- d. Legal contract reviews.
  - e. Coordination among annuity providers.
  - f. Conversion from annuity buy-in to buyout.
  - g. Discharge of liabilities under applicable legislation.
7. Describe how Assuris and PBGF protection can be optimized.
  8. Consider the impact of ancillary provisions (such as indexation, survivor benefits, etc.).
  9. Understand legislative changes to plan provisions allowing annuity purchases.
  10. Outline the issues arising from the discontinuance of benefit provision, including:
    - a. the rights and expectations of beneficiaries;
    - b. the availability and selection of a method of provision of discontinuance benefits; and
    - c. the level of available assets.

#### 4. Reporting, valuation, and management of benefit arrangements

1. Compare and contrast the objectives of funding, solvency, hypothetical wind-up and accounting actuarial valuations.
2. Describe the issues that arise from the transfer or amendment of benefit rights; for example, following significant corporate activity (such as an acquisition or plan merger), including:
  - a. the interests and responsibilities of the parties involved;
  - b. the terms set out in the legal documentation;
  - c. financial aspects, such as the calculation of the transfer values and benefits provided; and
  - d. related accounting implications.
3. Determine an appropriate method and appropriate financial and demographic assumptions for a valuation of a pension arrangement and placing values on benefits and contributions.
4. Describe how climate-related risks could impact the valuation assumptions for liabilities and normal cost of pension plans.

#### 5. Communication and organizational behaviour

1. Explain differences between effective and poor communication techniques and their implications.
2. Apply techniques to structure ideas logically.
3. Develop clear, fact-based messages that can be communicated persuasively.
4. Explain the role of cognitive biases on making suboptimal individual decisions.
5. Evaluate the role of organizational behavior on organizational decision-making processes and efficacy.
6. Explain why communication is strategically important to organizations.
7. Describe how information is communicated within organizations.
8. Describe organizational and individual barriers to effective communication.
9. Identify the risks of ineffective communication.
10. Explain how to overcome communication barriers and minimize risks of ineffective communication.
11. Recognize the influence of culture and diversity on communication.
12. Apply the CIA *Standards of Practice* and *Rules of Professional Conduct* in business communication.



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