

# Individual Life and Annuity Company/Sponsor Perspective – Canada Spring 2011

## **Important Exam Information:**

<a href="#">Exam Date and Time</a>	A read-through time will be given prior to the start of the exam—15 minutes in the morning session and 15 minutes in the afternoon session.
Exam Registration	Candidates may register online or with an application.
<a href="#">Order Study Notes</a>	Study notes are part of the required syllabus and are not available electronically but may be purchased through the online store.
<a href="#">Introductory Study Note</a>	The Introductory Study Note has a complete listing of all study notes as well as errata and other important information.
Case Study	C"ecug'uwf { 'y kmpqv'dg'wugf 'hqt 'yj g'Ur tlpri "4233"uguuikqp0
<a href="#">Past Exams</a>	Past Exams from 2000-present are available on SOA web site.
<a href="#">Updates</a>	Candidates should be sure to check the Updates page on the exam home page periodically for additional corrections or notices.

## Individual Life and Annuity Company/Sponsor Perspective – Canada Spring 2011

Exam: ILA - CSP	TOPIC: <b><u>Financial Reporting</u></b>
Learning Objectives	
<p><b>1. The candidate will understand the preparation of financial statements and reports of Canada life insurance companies and be able to analyze the data in them.</b></p>	
Learning Outcomes	
<p>The candidate will be able to:</p> <p>A. Construct the basic financial statement or its components for a life insurance company.</p> <p>B. Describe the structure of the Canada Annual Statement and explain the purpose of its statements, key exhibits and schedules.</p> <p>C. Describe how to compute the taxable income of a life insurance company</p> <p>D. Explain fair value accounting principles</p> <p>E. Describe international accounting standards</p> <p>F. Develop, use and recommend methods for performing actuarial reviews of reserves</p>	
Syllabus Resources	
<ul style="list-style-type: none"> <li>• Canadian Insurance Taxation, Third Edition, 2009, by PriceWaterhouseCoopers <ul style="list-style-type: none"> <li>Chapter 3 Liability for Income Tax,</li> <li>Chapter 4, Income for Tax Purposes – General Rules,</li> <li>Chapter 5, Investment Income,</li> <li>Chapter 6, Reserves,</li> <li>Chapter 11, Investment Income Tax,</li> <li>Chapter 27 Provincial Premium Taxes</li> </ul> <p><b>Background Only:</b> Chapters 1, 2, 7-10 and 26</p> </li> <li>• <i>Valuation of Life Insurance Liabilities:</i> <ul style="list-style-type: none"> <li>Chapter 1, Overview of Valuation Requirements</li> </ul> </li> <li>• ILA-C100-07: Financial Reporting Developments Accounting for Derivative Instruments and Hedging Activities: A Comprehensive Analysis of FAS 133 (Overview and Appendix C)</li> <li>• ILA-C102-09: Actuarial Review of Reserves and other Annual Statement Liabilities, Ed Robbins</li> <li>• ILA-C127-11: July 2010 Exposure Draft - Insurance Contracts, IASB, pages 19 to 84</li> <li>• ILA-C618-11 OSFI D-10, October 2009</li> <li>• ILA-C625-10: Market Value Margins for Insurance Liabilities in Financial Reporting and Solvency Applications, E&amp;Y October 2007 through page 65</li> <li>• ILA-C629-11: Conversion to International Financial Reporting Standards (IFRSs) by Federally Regulated Entities (FREs) March 2010</li> <li>• ILA-C630-11: IFRS and the Canadian Actuary (PD-6 from Proceedings of the CIA, Vol. 20, September 2009</li> <li>• An Approach to Fair Valuation of Insurance Liabilities Using the Firm’s Cost of Capital”, NAAJ, Apr 2002, p. 18-23  <a href="http://www.soa.org/library/journals/north-american-actuarial-journal/2002/april/naaj0204_3.pdf">http://www.soa.org/library/journals/north-american-actuarial-journal/2002/april/naaj0204_3.pdf</a></li> <li>• Fair Value of Liabilities: The Financial Economic Perspective”, NAAJ Jan 2002  <a href="http://www.soa.org/library/journals/north-american-actuarial-journal/2002/january/naaj0201_2.pdf">http://www.soa.org/library/journals/north-american-actuarial-journal/2002/january/naaj0201_2.pdf</a></li> </ul>	

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- CIA Educational Note: Calm implications of AcSB Section CICA 3855 Financial Instruments – Recognition and Measurement – June 2006  
<http://www.actuaries.ca/members/publications/2006/206077e.pdf>
- CIA Educational Note: Implications of CICA Accounting Standard 3855 and 1530 – Jan 2007  
<http://www.actuaries.ca/members/publications/2007/207002e.pdf>
- Educational Note: Classification of Contracts under International Financial Reporting Standards  
<http://www.actuaries.ca/members/publications/2009/209066e.pdf>
- Research Paper: Changes in Accounting Policies under International Financial Reporting Standards  
<http://www.actuaries.ca/members/publications/2009/209061e.pdf>

## Individual Life and Annuity Company/Sponsor Perspective – Canada Spring 2011

Exam: ILA – CSP	TOPIC: <u>Principles of Valuation</u>
Learning Objectives	
<b>2. The candidate will be able to understand and apply valuation principles of individual life insurance and annuity products issued by Canada Life Insurance companies.</b>	
Learning Outcomes	
The candidate will be able to:	
<p>A.</p> <ul style="list-style-type: none"> <li>i) Describe Valuation Methods</li> <li>ii) Recommend appropriate valuation assumptions.</li> </ul> <p>B. Calculate liabilities for the following products:</p> <ul style="list-style-type: none"> <li>i) Traditional life insurance</li> <li>ii) Term life insurance</li> <li>iii) Universal life insurance</li> <li>iv) Deferred annuity</li> <li>v) Payout annuity</li> <li>vi) Segregated Funds with guaranteed minimum death benefits</li> <li>vii) Segregated Funds with guaranteed living benefits</li> <li>viii) Riders</li> </ul> <p>C. Devise and use reserve audit methods</p>	
Syllabus Resources	
<ul style="list-style-type: none"> <li>• <i>Valuation of Life Insurance Liabilities</i>, Lombardi, Fourth Edition, 2006 Chapter 1 Overview of Valuation Requirements</li> <li>• CIA Consolidated Standards of Practice – Section 2100, 2300, 2500 , Dec. 2009– <a href="http://www.actuaries.ca/SOP_Doc/Complete/SOP_e_Complete_December09.pdf">http://www.actuaries.ca/SOP_Doc/Complete/SOP_e_Complete_December09.pdf</a></li> <li>• CIA Educational Note: Best Estimates Assumptions for Expenses – November 2006 <a href="http://www.actuaries.ca/members/publications/2006/206134e.pdf">http://www.actuaries.ca/members/publications/2006/206134e.pdf</a></li> <li>• CIA Educational Note: Margins for Adverse Deviations (Mfad) – November 2006 <a href="http://www.actuaries.ca/members/publications/2006/206132e.pdf">http://www.actuaries.ca/members/publications/2006/206132e.pdf</a></li> <li>• CIA: Educational Note Valuation of Segregated Fund Investment Guarantees (December 2003 and October 2005) <a href="http://www.actuaries.ca/members/publications/2005/205111e.pdf">http://www.actuaries.ca/members/publications/2005/205111e.pdf</a> <a href="http://www.actuaries.ca/members/publications/2003/203107e.pdf">http://www.actuaries.ca/members/publications/2003/203107e.pdf</a></li> <li>• CIA Educational Note: Approximations to the Canadian Asset Liability Method (CALM): November 2006 <a href="http://www.actuaries.ca/members/publications/2006/206133e.pdf">http://www.actuaries.ca/members/publications/2006/206133e.pdf</a></li> <li>• CIA Educational Note: Expected Mortality: Fully Underwritten Canadian Individual Life Insurance Policies: July 2002 <a href="http://www.actuaries.ca/members/publications/2002/202037e.pdf">http://www.actuaries.ca/members/publications/2002/202037e.pdf</a></li> <li>• CIA: Use of Stochastic Techniques to Value Liabilities under Canadian GAAP: August 2001 <a href="http://www.actuaries.ca/members/publications/2001/20169e.pdf">http://www.actuaries.ca/members/publications/2001/20169e.pdf</a></li> <li>• CIA Task Force on Segregated Fund Investment Guarantees, March 2002 (Chapter 1-5) <a href="http://info.worldbank.org/etools/docs/library/83954/cia.pdf">http://info.worldbank.org/etools/docs/library/83954/cia.pdf</a></li> <li>• CIA: Dynamic Capital Adequacy Testing (DCAT) Education Note: November 2007, <a href="http://www.actuaries.ca/members/publications/2007/207108e.pdf">http://www.actuaries.ca/members/publications/2007/207108e.pdf</a></li> <li>• CIA Draft Educational Note: Valuation of Universal Life Policy Liabilities November, 2006</li> </ul>	

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- <http://www.actuaries.ca/members/publications/2006/206148e.pdf>  
CIA Use of Actuarial Judgment in Setting Assumptions and Margins for Adverse Deviations, November 2006
- <http://www.actuaries.ca/members/publications/2006/206147e.pdf>  
CIA Educational Note: Considerations in Valuation of Segregated Fund Products – November 2007
- <http://www.actuaries.ca/members/publications/2007/207109e.pdf>  
Financial Reporter Article April 2009, Rubin, et. al Fair Value Accounting: Trouble-maker or Life-saver?
- <http://www.soa.org/library/newsletters/financial-reporter/2009/april/frn-2009-iss76.pdf>  
An Approach for measurement of the Fair Value of Insurance Contracts, Gutterman, et al., Actuarial Practice Forum, May 2007
- [http://www.soa.org/library/journals/actuarial-practice-forum/2007/may/APF0705\\_04.pdf](http://www.soa.org/library/journals/actuarial-practice-forum/2007/may/APF0705_04.pdf)  
CIA Educational note, Currency Risk in the Valuation of Policy Liabilities for Life and Health Insurers, December 2009
- <http://www.actuaries.ca/members/publications/2009/209121e.pdf>

## Individual Life and Annuity Company/Sponsor Perspective – Canada Spring 2011

Exam: ILA - CSP	TOPIC: <u>Reinsurance</u>
Learning Objectives	
<p><b>3. The candidate will be able to evaluate various forms of reinsurance, what the financial impact is of each form, and describe the circumstances that would make each type of reinsurance appropriate.</b></p>	
Learning Outcomes	
<p>The candidate will be able to:</p> <p>A. For traditional and financial reinsurance, explain the consequences and calculate the effect on both ceding and assuming companies with respect to:</p> <ul style="list-style-type: none"> <li>i) risk transfer</li> <li>ii) cash flow,</li> <li>iii) financial statements</li> <li>iv) tax, and</li> <li>v) reserve credit requirements</li> </ul> <p>B. Describe the considerations and evaluate the appropriate reinsurance form from the ceding and assuming company perspectives</p>	
Syllabus Resources	
<ul style="list-style-type: none"> <li>• Canadian Insurance Taxation, Third Edition, 2009, by PriceWaterhouseCoopers Chapter 30, Reinsurance</li> <li>• <i>Life and Health and Annuity Reinsurance</i>, Tiller, Third Edition, 2005: Chapter 4 Basic Methods of Reinsurance Chapter 5 Advanced Methods of Reinsurance Chapter 6 The Reinsurance Treaty</li> <li>• ILA-C624-10: Discussion Paper on OSFI's Regulatory and Supervisory Approach to Reinsurance</li> <li>• Report of the CIA Task Force on the Appropriate Treatment of Reinsurance, Oct 2007 <a href="http://www.actuaries.ca/members/publications/2007/207081e.pdf">http://www.actuaries.ca/members/publications/2007/207081e.pdf</a></li> <li>• Submission by the Canadian Institute of Actuaries to the Office of the Superintendent of Financial Institutions, CIA, March 2009 <a href="http://www.actuaries.ca/members/publications/2009/209023e.pdf">http://www.actuaries.ca/members/publications/2009/209023e.pdf</a></li> </ul>	

## Individual Life and Annuity Company/Sponsor Perspective – Canada Spring 2011

Exam: ILA - CSP	TOPIC: <b><u>Financial and Capital Management</u></b>
Learning Objectives	
<b>4. The candidate will be able to explain and apply the basic methods, approaches and tools of financial management and embedded value creation in a life insurance company context.</b>	
Learning Outcomes	
<p>The candidate will be able to:</p> <p>A. Describe and calculate basic performance measures</p> <p>B. Perform basic financial analysis by product line and total company</p> <p>C. Explain and create a product line “gains by source” analysis</p> <p>D. Apply methods of valuation to business and asset acquisitions and sales</p> <p>E. Explain and apply the basic methods and approaches of surplus management and earnings management</p> <p>F. Describe how securitization is used within capital management</p> <p>G. Explain and apply the methods and principles of embedded value</p> <p>H. Describe and apply the principles of how insurance companies create value from a financial economics perspective</p>	
Syllabus Resources	
<ul style="list-style-type: none"> <li>• <i>Life Insurance Products and Finance</i>, Atkinson and Dallas, 2000 Chapter 16</li> <li>• ILA-C106-07: Chapter 4 (Sections 4.1-4.6) in <i>Mergers and Acquisitions</i></li> <li>• ILA-C107-07: Securitization of Life Insurance Assets and Liabilities</li> <li>• ILA-C110-07: The Economics of Insurance: How Insurers Create Value for Shareholders</li> <li>• ILA-C603-07: OSFI Guideline D-9: Sources of Earnings Disclosure, December 2004</li> <li>• ILA-C626-10: PD #28 – Embedded Value (EV) and Market-Consistent Embedded Value (MCEV). What is the Difference?, June 2008</li> <li>• CIA: Sources of Earnings: Determination and Disclosure, August 2004 <a href="http://www.actuaries.ca/members/publications/2004/204047e.pdf">http://www.actuaries.ca/members/publications/2004/204047e.pdf</a></li> <li>• Embedded Value: Practice and Theory, SOA, Actuarial Practice Forum, March 2009 <a href="http://www.soa.org/library/journals/actuarial-practice-forum/2009/march/apf-2009-03-frasca-lasorella.pdf">http://www.soa.org/library/journals/actuarial-practice-forum/2009/march/apf-2009-03-frasca-lasorella.pdf</a></li> <li>• Strategic Management of Life Insurance Company Surplus, TSA XXXVIII (pages 105-116) <a href="http://www.soa.org/library/research/transactions-of-society-of-actuaries/1986/january/tsa86v387.pdf">http://www.soa.org/library/research/transactions-of-society-of-actuaries/1986/january/tsa86v387.pdf</a></li> </ul>	

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Exam: ILA - CSP	TOPIC: <b><u>Financial and Capital Management</u></b>
Learning Objectives	
<b>5. The candidate will understand the Risk Based Capital (RBC) regulatory framework and the principles underlying the determination of Regulatory RBC and Economic Capital.</b>	
Learning Outcomes	
<p>The candidate will be able to:</p> <p>A. Describe the MCCR/RBC regulatory framework and the principles underlying the determination of Regulatory RBC.</p> <p>B. Compute MCCR for a life insurance company, including:</p> <ol style="list-style-type: none"> <li>i) Identification of significant risk components</li> <li>ii) Identification of specialized product MCCR requirements</li> <li>iii) Interpreting results from a regulatory perspective</li> </ol> <p>C. Explain and apply the concepts, approaches and method for determining Economic Capital</p>	
Syllabus Resources	
<ul style="list-style-type: none"> <li>• <i>Valuation of Liabilities</i>, Lombardi , Fourth Edition, 2006 Chapter 1 Overview of Valuation Requirements Chapter 16 Risk-Based Capital</li> <li>• ILA-C121-08: Economic Capital Modeling: Practical Considerations, Milliman White Paper</li> <li>• ILA-C606-11: OSFI: Guideline Minimum Continuing Capital and Surplus Requirements for Life Insurance Companies Chapters 1-5 and 8, December 2009 version</li> <li>• ILA-C609-07: CIA: OSFI Submission: Future Direction of Insurance Capital Rules: March 2005</li> <li>• ILA-C627-10: PD #9 Economic Capital Models, June 2008</li> <li>• ILA-C628-10: OSFI: Framework for New Standard Approach to Setting Capital Requirements November 2008</li> <li>• ILA-C631-11: Key Principles for the Future Direction of the Canadian Regulatory Capital Framework on Insurance</li> <li>• Economic Capital for Life Insurance Companies, SOA Research paper, Ch. 1, 3, 4, 5, 6 <a href="http://www.soa.org/files/pdf/research-ec-report.pdf">http://www.soa.org/files/pdf/research-ec-report.pdf</a></li> <li>• Economic Capital: The Controversy at the Watercooler, Financial Reporter, Fall 2006 <a href="http://www.soa.org/library/newsletters/risk-management-newsletter/2006/december/RMN0612.pdf">http://www.soa.org/library/newsletters/risk-management-newsletter/2006/december/RMN0612.pdf</a></li> <li>• <i>A Multi-Stakeholder Approach to Capital Adequacy</i> <a href="http://www.soa.org/files/pdf/APF0702_01.pdf">http://www.soa.org/files/pdf/APF0702_01.pdf</a></li> <li>• Transitioning to RBC C3 Phase III, <i>Financial Reporter</i>, March 2010 <a href="http://www.soa.org/library/newsletters/financial-reporter/2010/march/frn-2010-iss80.pdf">http://www.soa.org/library/newsletters/financial-reporter/2010/march/frn-2010-iss80.pdf</a></li> </ul>	



## Individual Life and Annuity Company/Sponsor Perspective – Canada Spring 2011

Exam: ILA - CSP	TOPIC: <b>Model Office and Asset/Liability Modeling</b>
Learning Objectives	
<b>6. The candidate will be able to integrate data from various sources into model office and asset/liability models</b>	
Learning Outcomes	
<p>The candidate will be able to:</p> <p>A. For an ALM model:</p> <ol style="list-style-type: none"> <li>i) Select appropriate assumptions and scenarios</li> <li>ii) Model dynamic behavior of both assets and liabilities</li> <li>iii) Model and explain various strategies, including hedging</li> <li>iv) Analyze and evaluate results</li> <li>v) Recommend appropriate strategies</li> </ol> <p>B. Apply a model office process and make appropriate recommendations.</p> <p>C. Analyze and explain actual vs. projected differences</p> <p>D. Explain limitations of models and possible sources of error</p> <ol style="list-style-type: none"> <li>i) Quality of data</li> <li>ii) Granularity of the model</li> </ol>	
Syllabus Resources	
<ul style="list-style-type: none"> <li>• <i>Life Insurance Products and Finance</i>, by Atkinson and Dallas, Chapters: Chapter 14 Financial Modeling Chapter 15 Stochastic Modeling, pp. 785-831, 856-858</li> <li>• <i>Valuation of Life Insurance Liabilities</i>, Lombardi, Fourth Edition, 2006 Chapter 13</li> <li>• ILA-C112-07: ALM for Insurers</li> <li>• ILA-C113-07: Chapter 22 of <i>Life Insurance Accounting</i>, Asset/Liability Management</li> <li>• ILA-C114-07: Life Insurance Forecasting and Liability Models (exclude appendices)</li> <li>• ASOP #23: Data Quality <a href="http://www.actuarialstandardsboard.org/pdf/asops/asop023_097.pdf">http://www.actuarialstandardsboard.org/pdf/asops/asop023_097.pdf</a></li> </ul>	

## Individual Life and Annuity Company/Sponsor Perspective – Canada Spring 2011

Exam: ILA - CSP	TOPIC: <b><u>Risk Management And Mitigation</u></b>
Learning Objectives	
<p><b>7. The candidate will be able to evaluate risks faced by a Company by virtue of the Company’s products, assets, and management strategies and practices, and be able to evaluate the appropriateness of various methods of risk mitigation.</b></p>	
Learning Outcomes	
<p>The candidate will be able to:</p> <p>A. Identify, categorize and evaluate potential sources of risk in products including but not limited to mortality, morbidity and lapse.</p> <p>B. Identify, categorize and evaluate potential sources of risk in investments including but not limited to credit risk, liquidity and asset-liability matching.</p> <p>C. Describe and evaluate the other risks an insurance company faces including operational, marketplace and expense risks.</p> <p>D. Describe how risks (e.g. product, investments and operational) and opportunities interact and how they influence firm strategy.</p> <p>E. Describe and apply methods of risk mitigation and hedging and to understand the limitations of such methods.</p> <p>F. Evaluate methods for measuring and controlling equity-based exposure associated with embedded options .</p> <p>G. Describe the roles of rating agencies, analysts and regulators together with their methods and impact on insurance companies.</p>	
Syllabus Resources	
<ul style="list-style-type: none"> <li>• ILA-C116-07: Mapping of Life Insurance Risks, AAA Report to NAIC</li> <li>• ILA-C124-10: S and P’s Insurance Criteria: Refining the Focus of Insurer ERM Criteria exclude pp. 20-26 Property/Casualty (Nonlife) Insurance Risk</li> <li>• ILA-C125-10: Insurance Risk Management Response to the Financial Crisis, CRO Forum, April 2009</li> <li>• Specialty Guide on ERM Chapters 1-6 <a href="http://www.soa.org/library/professional-actuarial-specialty-guides/enterprise-risk-management/2005/august/spg0605erm.pdf">http://www.soa.org/library/professional-actuarial-specialty-guides/enterprise-risk-management/2005/august/spg0605erm.pdf</a></li> <li>• Stochastic Analysis of Long Term Multiple-Decrement Contracts, Clark and Runchey, Jan 2008 – Exclude Appendices <a href="http://www.soa.org/files/pdf/research-stochastic.pdf">http://www.soa.org/files/pdf/research-stochastic.pdf</a></li> </ul>	

## Individual Life and Annuity Company/Sponsor Perspective – Canada Spring 2011

Exam: ILA - CSP	<b>TOPIC: Professional Considerations</b>
Learning Objectives	
<b>8. The candidate will understand the professional standards addressing financial reporting and valuation.</b>	
Learning Outcomes	
<p>The candidate will be able to:</p> <p>A. Explain the role and responsibilities of the appointed / valuation actuary.</p> <p>B. Identify and apply relevant professional actuarial qualification standards.</p> <p>C. Identify and apply actuarial standards of practice relevant to financial reporting and valuation .</p> <p>D. Explain the actuary’s professional responsibilities to stakeholders including obligations under Sarbanes-Oxley</p>	
Syllabus Resources	
<ul style="list-style-type: none"> <li>• ILA-C119-07: Chapter 19 of <i>Life Insurance and Accident and Health Insurance Accounting</i>, “Management Reports and Reports to Regulatory Bodies”</li> <li>• ILA-C126-10: KPMG SEC Guidance on Internal Control Over Financial Reporting, June 2007</li> <li>• ILA-C620-09: OSFI: Guideline E15: Sound Business and Financial Practices: Appointed Actuary: Legal Requirements, Qualification and External Review: November 2006</li> <li>• ILA-C622-10: CIA: Consolidated Standards of Practice: (Section 2400) – February 2009</li>   <li>• Actuarial Aspects of SOX 404, 12/04 Financial Reporter #59 <a href="http://www.soa.org/library/newsletters/financial-reporter/2004/december/frn0412.pdf">http://www.soa.org/library/newsletters/financial-reporter/2004/december/frn0412.pdf</a></li> <li>• Responsibilities of the Actuary for Communicating Sarbanes-Oxley control: Effectiveness in Accordance with Actuarial Standards of Practice, 12/04 Financial Reporter #59 <a href="http://www.soa.org/library/newsletters/financial-reporter/2004/december/frn0412.pdf">http://www.soa.org/library/newsletters/financial-reporter/2004/december/frn0412.pdf</a></li> </ul>	