**Important Exam Information:**

<table>
<thead>
<tr>
<th><strong>Exam Registration</strong></th>
<th>Candidates may register online or with an application.</th>
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</thead>
<tbody>
<tr>
<td><strong>Order Study Notes</strong></td>
<td>Study notes are part of the required syllabus and are not available electronically but may be purchased through the online store.</td>
</tr>
<tr>
<td><strong>Introductory Study Note</strong></td>
<td>The Introductory Study Note has a complete listing of all study notes as well as errata and other important information.</td>
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<tr>
<td><strong>Case Study</strong></td>
<td>There is no case study for this examination.</td>
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<tr>
<td><strong>Past Exams</strong></td>
<td>Past Exams from 2000-present are available on SOA website.</td>
</tr>
<tr>
<td><strong>Updates</strong></td>
<td>Candidates should be sure to check the Updates page on the exam home page periodically for additional corrections or notices.</td>
</tr>
</tbody>
</table>
1. **Learning Objectives**

The candidate will understand the feasibility step of new product development and how it drives design.

2. **Learning Outcomes**

The Candidate will be able to:

- a) Explain considerations for successful product development
- b) Describe tax regulation and perform calculations to evaluate compliance
- c) Identify gaps between product design and the operations of the company, its procedures and systems
- d) Describe U.S. non-forfeiture regulation and perform calculations to evaluate compliance
- e) Recommend ways to close the gaps between design and the internal/external constraints

3. **Resources**

- *Life Insurance Products and Finance*, Atkinson & Dallas, Ch. 2
- *Life Insurance and Modified Endowments Under Internal Revenue Code Sections 7702 and 7702A*, DesRochers, Ch. 2-4, 6
- *2008 Supplement to Life Insurance and Modified Endowments Under Internal Revenue Code Sections 7702 and 7702A*, DesRochers, pp. 3-33, 40-56, 71-81, Appendices A-C
- *Canadian Taxation of Life Insurance*, Marino, 7th Edition, Ch. 3, 14, 15 (Ch. 1 Background Reading only), Candidates can also use the 6th Edition. The same chapter references apply.
- LP-121-13: Life Insurance and Annuity Non-forfeiture Practices
- LP-122-13: NAIC Standard Non-forfeiture Law for Life Insurances: Sections 1-4, 5c, 6-9
### Learning Objectives

The candidate will understand the design and purpose of various product types, benefits and features.

### Learning Outcomes

The Candidate will be able to:

- a) Describe in detail product types, benefits and features
- b) Construct and recommend a design that is consistent with the market needs
- c) Evaluate the feasibility of the recommended design

### Resources

- *Investment Guarantees*, Hardy, Ch. 1
- LP-102-07: Equity Indexed Annuities: Product Design and Pricing Consideration
- LP-105-07: Life and Annuity Products and Features
- LP-116-10: Variable Annuities, Kalberer and Ravindran, Ch. 5, 9-11
- LP-126-13: Pricing Critical Illness Insurance in Canada, Mooney
- [What's Backing Your Life Insurance Guarantee?](#), The Actuary Magazine, Feb 2005
- [Term Mortality and Lapses](#), Product Matters, Aug 2005,
- [ASOP #2 Non-guaranteed Charges or Benefits for Life Insurance Policies and Annuity Contracts](#), May 2011 (excl. Transmittal Memo and Appendices),
- [Quantification of the Natural Hedge Characteristics of Combination Life or Annuity Products Linked to Long-Term Care Insurance](#), Mar 2012
- [Is This Correction Good For Life Insurance](#), Product Development News, pp. 18-20, Feb 2011
- Life Insurance Acceleration Riders, [SOA - Society of Actuaries - Reinsurance Section](#), pp. 35-38, July 2013
- [Interesting Challenges for Insurers](#), Product Matters, June 2012, pp. 10 – 16
3.

<table>
<thead>
<tr>
<th>Learning Objectives</th>
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<tbody>
<tr>
<td>The candidate will understand the relationship between the product features, their inherent risks, and the selection of appropriate pricing assumptions, profit measures and modeling approaches.</td>
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<tbody>
<tr>
<td>The Candidate will be able to:</td>
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<tr>
<td>a) Identify and explain the setting of an appropriate assumption for product characteristics such as the following:</td>
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<tr>
<td>i) Riders</td>
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<td>ii) Policyholder dividends</td>
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<td>iii) Equity linked</td>
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<tr>
<td>iv) Embedded options</td>
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<td>v) Return of premium</td>
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<tr>
<td>vi) Secondary guarantees</td>
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<tr>
<td>vii) Payout annuity benefits</td>
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<tr>
<td>viii) Crediting methodology</td>
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<tr>
<td>ix) Other non-guaranteed elements</td>
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<tr>
<td>b) Identify and explain the setting of an appropriate assumption for risk and other factors such as:</td>
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<tr>
<td>i) Available experience data</td>
</tr>
<tr>
<td>ii) The marketplace</td>
</tr>
<tr>
<td>iii) Underwriting</td>
</tr>
<tr>
<td>iv) Distribution channel characteristics</td>
</tr>
<tr>
<td>v) Reinsurance</td>
</tr>
<tr>
<td>vi) Expenses (fixed, variable, marginal)</td>
</tr>
<tr>
<td>vii) Taxes (income and premium)</td>
</tr>
<tr>
<td>viii) Investment strategy</td>
</tr>
<tr>
<td>c) Analyze results and recommend appropriate action from an array of risk and profit measures such as: Statutory, GAAP, Return on Equity, Market Consistent Pricing, Embedded Value</td>
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<tr>
<td>d) Analyze the capital requirements for a product and describe solutions to optimize capital usage</td>
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<tr>
<td>e) Describe when a stochastic model should be used, its advantages and disadvantages, how to build it and how to analyze its results</td>
</tr>
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</table>

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<tr>
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<tbody>
<tr>
<td>* The Art and Science of Life Insurance Distribution*, Bennett and Zultowski, 2014, Ch. 3 – 7</td>
</tr>
</tbody>
</table>
Individual Life and Annuity Life Pricing
Fall 2015 & Spring 2016

- *Life Insurance Products and Finance*, Atkinson & Dallas, Ch. 10, 11, 13
- *Investment Guarantees*, Hardy, Ch. 1, 2, 6, 7, 8, 12, 13

- LP-102-07: Equity Indexed Annuities: Product Design and Pricing Consideration
- LP-107-07: Experience Assumptions for Individual Life Insurance and Annuities
- LP-110-07: Policyholder Dividends
- LP-113-09: Swiss Re, Economics of Insurance: How Insurers Create Value for Shareholders
- LP-130-14: Life Insurance Underwriting in the United States, Ch. 1, 2, 4, 5, 6, Klein
- LP-132-15: Lapsed-Based Insurance, Gottlieb and Smetters, April 2014, pp.1-24 plus Appendix A (pp. 29-30)
- LP-133-15: Empirical Investigation of Life Settlements: The Secondary Market for Life Insurance Policies, Januario & Naik, June 2013, pp. 1 – 20 (This study note has been dropped from the syllabus)

- ASOP #2 Non-guaranteed Charges or Benefits for Life Insurance Policies and Annuity Contracts, May 2011 (excl. Transmittal Memo and Appendices)
- *Ending the Mortality Table*, Living to 100 Symposium
- *Mortality Table Slope – the Discussion Goes On*, Product Matters Jul 2004
- *Pricing in a Return-on-Equity Environment*, TSA XXXIX, 1987
- *Risk Based Pricing – Risk Management at Point of Sale*, Product Matters, June 2009
- *Predictive Modeling for Life Insurance*, Deloitte
- *Level Term Lapse Rates – Lessons Learned Here and in Canada*, The Canadian Experience, Product Matters, pp.13-14, Oct 2011
- SOA - Society of Actuaries - Product Development Section Newsletter (Product Matters!), Term Conversions – A Reinsurer’s Perspective, June 2012, pp. 1, 5 – 6
- CIA Educational Note: Best Estimates Assumptions for Expenses – November 2006, pp. 19 - 39
- CIA Report: Lapse Experience Study for 10-Year Term Insurance, Jan 2014, pp. 6 – 32
• SOA – Society of Actuaries, Modelling of Policyholder Behavior for Life and Annuity Products, 2014, pp. 9 – 16, 23- 33, 45 – 67
• SOA – Society of Actuaries, Understanding the Volatility of Experience and Pricing Assumptions in Long-Term Care Insurance, 2014, pp. 4 – 46
• SOA – Society of Actuaries, Automated Life Underwriting: Phase 2, Deloitte, Aug 2010
• Relationship of IRR to ROI on a Level Term Life Insurance Policy, Product Matters, June 2013, pp. 18 - 21
### Learning Objectives
The candidate will understand actuarial requirements of product implementation and the monitoring of experience versus product assumptions.

### Learning Outcomes
The Candidate will be able to:

a) Describe and evaluate compliance with illustration regulation

b) Evaluate, through the use of Experience Studies, how actual experience varies from expected relative but not limited to: mortality, investment returns, expenses and policyholder behavior such as policy and premium persistency

c) Describe how to ensure the quality of data

d) Recommend changes to non-guaranteed elements including policyholder dividends for deviations from expected

### Resources

- LP-107-07: Experience Assumptions for Individual Life Insurance and Annuities
- LP-110-07: Policyholder Dividends
- LP-124-13: Role of the Actuary in Product Roll-out
- LP-125-13: NAIC Life Insurance Illustrations Model Regulation
- LP-128-13: CLHIA - Guideline Illustrations

- Experience Data Quality: How to Clean and Validate Your Data (Exclude Appendices) SOA/LIMRA Research Report
- ASOP #2 Non-guaranteed Charges or Benefits for Life Insurance Policies and Annuity Contracts, May 2011 (excl. Transmittal Memo and Appendices),
- ASOP #23 Data Quality (excl. Transmittal Memo and Appendices), May 2011
- SOA - Society of Actuaries - Product Development Section, The Interstate Compact, Product Matters, Feb 2013, pp. 8 – 11