

Individual Life and Annuity Design and Pricing U.S. Spring 2012

Important Exam Information:

Exam Date and Time	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.
Order Study Notes	Study notes are part of the required syllabus and are not available electronically but may be purchased through the online store.
Introductory Study Note	The Introductory Study Note has a complete listing of all study notes as well as errata and other important information.
Case Study	A case study will not be used for the Spring 2012 exam.
Past Exams	Past Exams from 2000-present are available on SOA web site.
Updates	Candidates should be sure to check the Updates page on the exam home page periodically for additional corrections or notices.

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Exam: ILA - DP	
Learning Objectives	
1. Describe the product development process.	
Learning Outcomes	
The candidate will be able to:	
<p>A. Describe the iterative steps in the control cycle process within the context of product development;</p> <ul style="list-style-type: none"> i) Idea Generation ii) Feasibility iii) Planning the Design iv) Actuarial Development <ul style="list-style-type: none"> ▪ Assumptions ▪ Profitability ▪ Regulatory Issues ▪ Choice of Model v) Implementing and Monitoring the Product <p>B. Describe how the actuary interacts with other stakeholders within the product development process</p>	
Syllabus Resources	
<ul style="list-style-type: none"> • Atkinson & Dallas, <i>Life Insurance Products and Finance</i>, Chapter 2 and Chapter 13, sections 13.1-13.2 only • ILA-D101-07: Product Development Trends, pp.1-61. • ILA-D104-07: Easton and Harris <i>Actuarial Aspects of Individual Life Insurance and Annuity Contracts</i>, Chapter 3 The Product Development Process • ILA-D111-07: LOMA, <i>Product Design for Life Insurance & Annuities</i>, Chapter 1 • 2006 Marketing and Distribution Section Product Implementation Survey, Product Matters! June 2007 http://www.soa.org/library/newsletters/newsdirect/2007/june/2002007june.aspx • Bob Shapiro 50th Anniversary monograph “<i>The Process of Premium Formulation</i>” http://www.soa.org/library/research/transactions-of-society-of-actuaries/1982/january/tsa82v3418.pdf 	

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Learning Objectives	
2. Understand the drivers of product design (the idea generation step).	
Learning Outcomes	
For a given context or product, the candidate will be able to:	
<p>A. Identify customers and their needs – internal and/or external</p> <p>B. Analyze how the following drive product design</p> <ul style="list-style-type: none"> • Company strengths and weaknesses • economic forces • marketplace demographics • consumer behavior • distribution channel behavior • Competition <p>C. Describe the questions to ask the sales and marketing (incl. Agents, brokers and direct marketing)</p>	
Syllabus Resources	
<ul style="list-style-type: none"> • <i>Marketing for Actuaries</i>, 2000 Edition, All Chapters • LOMA, <i>Insurance Marketing</i>, 2010, Ch. 2-5 and 7-8 • ILA-D120-11: Session PD-5: Pricing Best Practices 	

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Learning Objectives	
3. Understand the feasibility step of new product and how it drives design.	
Learning Outcomes	
For a given context or product, the candidate will be able to:	
<ul style="list-style-type: none"> A. Explain considerations for prudent and practical decision making B. Describe tax regulation and perform calculations to evaluate compliance C. Describe how investment policy and policy loans can impact design D. Identify gaps between the product design and the operations of the company and procedures and systems E. Recommend ways to close the gaps between design and the internal/external constraints. F. Describe non-forfeiture regulation and perform calculations to evaluate compliance 	
Syllabus Resources	
<ul style="list-style-type: none"> • Atkinson & Dallas, Life Ins. Products and Finance Chapters 2,3,8 and Ch. 13, 13.3and 13.4 only • <i>Life Insurance and Modified Endowments Under IRC §7702 and §7702A</i>, Chapters, 2, 3, 4, 6 • <i>2008 Supplement to Life Insurance and Modified Endowments Under IRC §7702 and §7702A</i> http://www.soa.org/files/pdf/2008-life-ins-mod-end-supplement.pdf • ILA-D800-07: Life Insurance and Annuity Non-forfeiture Practices • ILA-D801-07: NAIC Standard Non-forfeiture Law for Life Insurances: Sections 1-4, 5c, 6-9 • ILA-D802-07: NAIC Standard Non-forfeiture Law for Individual Deferred Annuities • Hidden Costs of Administering Complex Products, Nov. 2003 Issue of Product Matters http://www.soa.org/library/newsletters/product-development-news/2003/november/pdn0311.pdf • Hidden Costs of Product Complexity in Nov. 2003 Issue of Product Matters http://www.soa.org/library/newsletters/product-development-news/2003/november/pdn0311.pdf 	

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Learning Objectives	
4. Understand the design and purpose of various product types, benefits and features.	
Learning Outcomes	
The candidate will be able to:	
<ul style="list-style-type: none"> A. Describe in detail product types, benefits and features B. Construct and recommend a design that is consistent with the market needs identified in the idea generation step C. Evaluate the feasibility of the recommended design 	
Syllabus Resources	
<ul style="list-style-type: none"> • Hardy, <i>Investment Guarantees</i>, 2003, Chapter 1 Investment Guarantees • ILA-D102-07: Equity Indexed Annuities: Product Design and Pricing Consideration • ILA-D105-07: Life and Annuity Products and Features • ILA-D116-10: <i>Variable Annuities</i>, Kalberer and Ravindran , Chapters 5,9,10,11 • EIUL: The Devil’s in the Details, Product Matters, August (62)2005, http://www.soa.org/library/newsletters/product-development-news/2005/august/pdn0508.pdf • “Inflation-Indexed Income Annuities: Pricing Considerations and Investment Strategies”, Simpa Baiye, Product Matters, September, 2006 http://www.soa.org/library/newsletters/product-development-news/2006/September/PDN0609.pdf • “What’s Backing Your Life Insurance Guarantee?”, The Actuary, February 2005 http://www.soa.org/library/newsletters/the-actuary-magazine/2005/february/wha2005february.aspx • “VUL Secondary Guar: Catalyst for Sales Rebound”, Product Matters, July (56)2003, http://www.soa.org/library/newsletters/product-development-news/2003/july/pdn0307.pdf • Return of Premium Term, Product Matters July 2004 http://www.soa.org/library/newsletters/product-development-news/2004/july/pdn0407.pdf • “Term Mortality and Lapses”, Product Matters, August (62) 2005, http://www.soa.org/library/newsletters/product-development-news/2005/august/pdn0508.pdf • Designing & Pricing LTCI Combination Insurance Products, Long Term Care News, December (13) 2004 http://www.soa.org/library/newsletters/long-term-care/2004/december/ltc0412.pdf • Combination Annuities – A Market to Get Into? Small Talk Newsletter, June 2009, http://www.actstrat.com/SmallTalkArticle.htm • Annuity/LTCI Combinations , Product Matters, October, 2009 http://www.soa.org/library/newsletters/product-development-news/2009/october/pro-2009-iss75.pdf • ASOP #1 (excluding transmittal memo and appendices), Non-guaranteed Charges or Benefits for Life Insurance Policies and Annuity Contracts , March 2004 http://www.actuarialstandardsboard.org/pdf/asops/asop001_092.pdf 	

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Learning Objectives	
5. Understand the relationship between the product features, their inherent risks, and the selection of appropriate pricing assumptions, profit measures and modeling approaches.	
Learning Outcomes	
The candidate will be able to:	
<p>A. Identify and explain the setting of an appropriate assumption for product characteristics such as the following:</p> <ul style="list-style-type: none"> i) Riders ii) Policyholder Dividends iii) Equity linked iv) Embedded Options v) Return Of Premium vi) Secondary Guarantees vii) Payout Annuity Benefits viii) Crediting methodology ix) Other non-guaranteed elements <p>B. Identify and explain the setting of an appropriate assumption for risk and other factors such as:</p> <ul style="list-style-type: none"> i) available experience data ii) the marketplace iii) underwriting iv) distribution channel characteristics v) Reinsurance vi) Expenses (fixed, variable, marginal) vii) Taxes (income and premium) viii) Investment Strategy <p>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,</p> <p>D. Analyze the capital requirements for a product and describe solutions such as securitization</p> <p>E. Describe when a stochastic model should be used, its advantages and disadvantages, how to build it and how to analyze its results</p>	
Syllabus Resources	
<ul style="list-style-type: none"> • Atkinson & Dallas, <i>Life Insurance Products and Finance</i>, Chapters 3,7, 8, 9, 10, 11, 13, 14 • Hardy, <i>Investment Guarantees</i>, Chapters 1(p. 14 only), Chapters 2, 6, 8, 9, 12 and 13 • ILA-D102-07: Equity Indexed Annuities: Product Design and Pricing Consideration • ILA-D103-07: Price WaterHouse Coopers, Innovative Financing: Life Insurance Securitization, January 2006 • ILA-D106-07: Gross Premiums for Disability Waiver Benefits • ILA-D107-07: Experience Assumptions for Individual Life Insurance and Annuities • ILA-D109-11: Moody's Investors Service Corporate Default and Recovery Rates- update to Feb 2010 • ILA-D110-07: Policyholder Dividends • ILA-D113-09: : Swiss Re, Economics of Insurance: How Insurers Create Value for Shareholders • ILA-D114-09: CIA Research Paper, Life Insurance Costing and Risk Analysis, June 2008 • ILA-D115-09: IAA Measurement of Liabilities for Life Insurance Contracts: Current Estimates and Risk Margins April 15, 2009 , – pp.75-112 only • ILA-D118-11: Traditional versus Market Consistent Product Pricing, Senjeeb Kumar • ILA-D119-11: <i>A Comprehensive Guide to Measuring and Managing Life Insurance Company Expenses</i> by Gutterman – Chapter 5 	

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- ASOP #1 (excluding transmittal memo and appendices), Nonguaranteed Charges or Benefits for Life Insurance Policies and Annuity Contracts
http://www.actuarialstandardsboard.org/pdf/asops/asop001_092.pdf
- Report on the Lapse and Mortality Experience of post-Level Premium Period Term Plans, (pages 14-31 and 40-51 only)
<http://www.soa.org/files/pdf/research-shock-lapse-report.pdf>
- Ending the Mortality Table (Living to 100 Symposium) <http://www.soa.org/library/monographs/retirement-systems/living-to-100-and-beyond/2005/january/m-li05-1-ix.pdf>
- The Response of Life Insurance Pricing to Life Settlements, Product Matters! September 2006
<http://www.soa.org/library/newsletters/product-development-news/2006/september/PDN0609.pdf>
- Mortality Table Slope – the Discussion Goes On, Product Matters July 2004
<http://www.soa.org/library/newsletters/product-development-news/2004/july/pdn0407.pdf>
- Does Preferred Wear Off? Product Matters, July 2004
<http://www.soa.org/library/newsletters/product-development-news/2004/july/pdn0407.pdf>
- Product Development Challenges in a Principles-Based World, Product Matters!, October 2007
<http://www.soa.org/library/newsletters/product-development-news/2007/october/pm-0710.pdf>
- Across America, Valuation Actuaries Are Being Warmly Welcomed to Product Development Project Teams, Product Matters! February 2007
<http://www.soa.org/library/newsletters/product-development-news/2007/February/PDN0702.pdf>
- Pricing in a Return-on-Equity Environment, TSA XXXIX, 1987
<http://www.soa.org/library/research/transactions-of-society-of-actuaries/1987/january/tsa87v3911.pdf>
- Risk Based Pricing – Risk Management at Point of Sale “Product Matters” June 2009
<http://www.soa.org/library/newsletters/product-development-news/2009/june/pro-2009-iss-74.pdf>
- Stochastic Pricing, Session 62 TS from November 2005 SOA Annual Meeting
<http://www.soa.org/files/pdf/062bk-annual05.pdf>
- Stochastic Pricing, RSA Vol 27, No 2 Session 86PD
<http://www.soa.org/library/proceedings/record-of-the-society-of-actuaries/2000-09/2001/january/rsa01v27n286pd.pdf>
- Stochastic Pricing for Embedded Options in Life Insurance and Annuity Products, Milliman (exclude appendices,
<http://www.soa.org/files/pdf/research-2009-stochastic-pricing.pdf>
- Product Matters February 2010, Conditional Stochastic Pricing, Sun
<http://www.soa.org/library/newsletters/product-development-news/2010/february/pro-2010-iss76-sun.pdf>
<http://www.soa.org/library/newsletters/product-development-news/2010/february/pro-2010-iss76.pdf>
- Predictive Modeling in Life Insurance
<http://www.soa.org/files/pdf/research-pred-mod-life-huet.pdf>
- Predictive Modeling for Life Insurance by Deloitte
<http://www.soa.org/files/pdf/research-pred-mod-life-batty.pdf>

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Learning Objectives	
6. Understand actuarial requirements of product implementation and the monitoring of experience versus product assumptions.	
Learning Outcomes	
The candidate will be able to:	
<ul style="list-style-type: none"> A. Describe and evaluate compliance with illustration regulation and other policy form regulations 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 for deviations from expected 	
Syllabus Resources	
<ul style="list-style-type: none"> • ILA-D107-07: Experience Assumptions for Individual Life Insurance and Annuities • ILA-D110-07: Policyholder Dividends • ILA-D111-07: LOMA, <i>Product Design for Life Insurance & Annuities</i>, Chapter 2 pages 31-33 • ILA-D117-10: LOMA Life and Health Ins. Marketing, Third Edition, pp.242-243 • ILA-D803-07: Role of the Actuary in Product Roll-out • ILA-D804-09: NAIC Life Insurance Illustrations Model Regulation • ASOP #1, (excluding transmittal memo and appendices), Nonguaranteed Charges or Benefits for Life Insurance Policies and Annuity Contracts http://www.actuarialstandardsboard.org/pdf/asops/asop001_092.pdf • ASOP #23 (excluding transmittal memo and appendices), Data Quality http://www.actuarialstandardsboard.org/pdf/asops/asop023_097.pdf • ASOP #41 (excluding transmittal memo and appendices), Actuarial Communications http://www.actuarialstandardsboard.org/pdf/asops/asop041_120.pdf • Lapse Experience Under Lapse Supported Products, Product Matters, December (63) 2005 http://www.soa.org/library/newsletters/product-development-news/2005/december/pdn-2005-iss63-lebel.pdf • Report on the Lapse and Mortality Experience of Post-Level premium Period Term Plans http://www.soa.org/files/pdf/research-shock-lapse-report.pdf 	