

# CP 351 – Asset Liability Management

Nov 2025/Mar 2026/Jul 2026

#### **Important Course Information:**

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.

Syllabus Resources Resources listed in this syllabus may include study notes, online

readings, textbooks, videos and module content. Candidates are responsible for all materials in their entirety, including sections such as Appendices, unless it is stated otherwise in the syllabus.

Topic Weight Ranges These have been provided to indicate the relative emphasis on each

topic. The ranges of weights shown are intended to apply broadly over multiple sittings; however, the weights of topics on any individual exam could fall outside the published range. Candidates should also recognize

that some questions will cover multiple learning objectives.

Learning Outcomes Each resource listed indicates the specific learning outcome(s) it

aligns with under that particular topic. Resources are listed in the recommended order of study to best master the overall topic and learning objective. For additional guidance, please see the course

strategy guide.

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 provided for this examination.

<u>Past Exams</u> Past Exams from Fall 2020-present are available on SOA website.

Updates Candidates should be sure to check for updates on the course homepage

periodically for additional corrections or notices to the current syllabus.

Formula Package A Formula Package will be provided with the exam. Please see the

Introductory Study Note for more information.

<u>Cumulative Table</u> A Cumulative normal distribution table will be provided with the exam.

# 1. Topic: Objectives of Asset Liability Management (5% - 25%)

#### **Learning Objectives**

The candidate will understand the objectives of Asset Liability Management (ALM).

#### **Learning Outcomes**

The Candidate will be able to:

- a) Explain the principles of Asset Liability Management
- b) Understand the lessons learned from ALM failures
- c) Demonstrate an understanding of various ALM risks
- d) Describe how different pension and insurance contracts generate embedded options

Resources	Learning Outcomes
CP351-100-25: IAA Risk Book - Asset Liability Management	1a
CP351-101-25: ALM for Life, Annuities, and Pensions (sections 1-2)	1a
CP351-102-25: Case Study on General American Life Insurance Company	1b
<ul> <li>Financial Enterprise Risk Management, Sweeting, P., 2<sup>nd</sup> Edition, 2017</li> <li>Ch. 20: Case Studies (sections 1, 2, 4, 6, 8 &amp; 10)</li> </ul>	1b
CP351-103-25: Risk Management Lessons Learned From SVB	1b
What Can Insurers and Pension Funds Learn from Bank Failures	1b
Financial Enterprise Risk Management, Sweeting, P., 2 <sup>nd</sup> Edition, 2017  • Ch. 8: Risk Identification	1c
<ul> <li>Quantitative Enterprise Risk Management, Hardy, Mary and Saunders, David, 2022</li> <li>Ch. 2: Risk Taxonomy</li> </ul>	1c
CP351-104-25: Life Insurance Risk, Capital, and ALM in the Age of Uncertainty - Paper 1 - Risk Inventory, Taxonomy, Calibration	1c
CP351-101-25: ALM for Life, Annuities, and Pensions (section 3)	1d
CP351-105-25: Chapter 16 of Asset/Liability Management of Financial Institutions, Tilman 2003	1d
CP351-106-25: Liability Driven Investment Explained Chapters 1-2	1d

# 2. Topic: Measuring Risks from Assets and Liabilities (30% - 40%)

#### **Learning Objectives**

The candidate will understand how to measure risks from assets and liabilities.

#### **Learning Outcomes**

The Candidate will be able to:

- a) Demonstrate an understanding of various risk identification tools
- b) Evaluate a company's or a portfolio's exposures to various risks
- c) Evaluate the difficulties of investing for long-tail liabilities (i.e. beyond 30 years) such as inflation and longevity

Resources	Learning Outcomes
CP351-101-25: ALM for Life, Annuities, and Pensions (section 4)	2a
CP351-107-25: Key Rate Durations: Measures of Interest Rate Risk	2a
<ul> <li>Fixed Income Securities: Tools for Today's Markets, Tuckman, Bruce and Serrat, Angel, 4<sup>th</sup> Edition, 2022</li> <li>Ch. 4: DV01, Duration, and Convexity</li> <li>Ch. 5: Key-Rate, Partial, and Forward-Bucket '01s and Durations</li> </ul>	2a
<ul> <li>Understanding the Connection Between RW and RN Generators, Strommen, 2022, sections 1-5</li> <li>Companion Excel-based Tool</li> </ul>	2a
CP351-108-25: Life Insurance Risk, Capital, and ALM in the Age of Uncertainty - Paper 2 - Risk models and monitoring, and management implications	2b
CP351-109-25: IAIS Application Paper on Liquidity Risk Management	2b
Quantitative Enterprise Risk Management, Hardy, Mary and Saunders, David, 2022  • Ch. 8: Market Risk Models	2b
Fixed Income Securities: Tools for Today's Markets, Tuckman, Bruce and Serrat, Angel, 4 <sup>th</sup> Edition, 2022  • Ch. 6: Regression Hedging and Principal Component Analysis	2b
CP351-101-25: ALM for Life, Annuities, and Pensions (section 6)	2c
CP351-110-25: New Frontiers: Backing Long-term Insurance Liabilities with Non-fixed-income Assets	2c

#### 3. Topic: Tools and Strategies to Manage ALM Risks (40% - 60%)

#### **Learning Objectives**

The candidate will understand tools and strategies to manage ALM risks.

#### **Learning Outcomes**

The Candidate will be able to:

- a) Develop and critique asset allocation strategies appropriate to underlying liability profiles such as pension plans and long-tail insurance liabilities
- b) Demonstrate an understanding of and apply tools and techniques for measuring and managing interest rate risk in an ALM context
- c) Apply stress testing and scenario analysis to assess extreme ALM events
- d) Understand and evaluate model and parameter risks
- e) Explain and implement techniques used to mitigate market risks
- f) Understand interest rate derivatives and use them to mitigate interest rate risk

Resources	Learning Outcomes
CP351-101-25: ALM for Life, Annuities, and Pensions (section 5)	3a, 3e, 3f
CP351-106-25: Liability Driven Investment Explained, Ch. 3-7	За
<ul> <li>Handbook of Asset and Liability Management, Volume 2, Zenios, Stavros, and Ziemba, William, 2007</li> <li>Ch. 13: Stochastic Programming Models for Strategic and Tactical Asset Allocation - A Study from Norwegian Life Insurance</li> </ul>	3b
Quantitative Enterprise Risk Management, Hardy, Mary and Saunders, David, 2022  • Ch. 6: Copulas	3b
CP351-112-25: The Devil is in the Tails: Actuarial Mathematics and the Subprime Mortgage Crisis	3b
CP351-113-25: Chapter 4 of ALM for Banks and Insurance Companies, Habart (excluding 4.3.6)	3b, 3c, 3d
<ul> <li>Handbook of Asset and Liability Management, Volume 2, Zenios, Stavros, and Ziemba, William, 2007</li> <li>Ch. 18: A Scenario Approach to ALM</li> </ul>	3b
<ul> <li>Quantitative Enterprise Risk Management, Hardy, Mary and Saunders, David, 2022</li> <li>Ch. 7: Stress Testing</li> </ul>	Зс
CP351-114-25: Chapter 3 of Modelling in Life Insurance: A Management Perspective, Laurent	3d
Quantitative Enterprise Risk Management, Hardy, Mary and Saunders, David, 2022	

Ch. 14: Model Risk and Governance	3d
Ch. 15: Risk mitigation using options and derivatives	3е
Fixed Income Securities, Veronesi, P., 2010	3f
Ch. 5: Forwards and Swaps	
Ch. 6: Futures and Options	