

EDUCATION AND EXAMINATION COMMITTEE OF THE SOCIETY OF ACTUARIES (SOA)

FALL 2008

ADVANCED FINANCE/ENTERPRISE RISK MANAGEMENT

INTRODUCTORY STUDY NOTE

1. The Advanced Finance/Enterprise Risk Management examination is offered in Fall 2008 and in the Spring. For Fall 2008 the exam will be given on **Thursday, October 30, from 8:30 a.m. - 11:45 a.m. and 1:30 p.m. – 4:45 p.m.** The examination will consist of six hours of written answer questions. 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.
2. Any changes in the Course of Reading for this course will be published on the “Updates” page of the SOA Fall 2008 online catalog <http://www.soa.org/education/course-catalog/edu-updates.aspx>
3. The Course of Reading includes textbooks, online published readings, as well as the study notes listed below. A complete listing of the Course of Reading is located in the Fall 2008 Catalog on the SOA website. All questions concerning study notes should be directed to Basic Education Study Materials at 847-706-3525 or azionce@soa.org

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| FE-C11-08# | Introductory Study Note |
| FE-C23-08# | Case Study (This will be sent in a second mailing and posted on Updates page) Available approx. at the end of June. |
| FE-C102-07 | General American Life Can't Pay Investors, Looks at Suitors |
| FE-C103-07 | The Missing Risk In Pricing Of Equity-Based Products |
| FE-C104-07 | Insurance OP Risk: The Big Unknown |
| FE-C106-07 | Mapping of Life Insurance Risks AAA Report to NAIC |
| FE-C108-07 | The Cost of Capital for Financial Firms |
| FE-C109-07 | Solvency Measurement for Property-Liability Risk-Based Capital Applications |
| FE-C110-07 | Preparing for C-3 Phase II RCB-From Development to Implementation |
| FE-C111-07 | Standard & Poor's Insurance Liquidity Model for 2000 |
| FE-C112-07 | Standard & Poor's Life Insurance Earnings Adequacy Model Revised for 2001 |
| FE-C113-07 | New Insurance Capital Model Embraces Trends in Risk Management |
| FE-C114-07 | Financial Decision-Making in Markets and Firms: A Behavioral Perspective |
| FE-C115-07 | Chapters 2 and 3 of <i>Life Insurance Products and Finance</i> (Atkinson & Dallas) |
| FE-C117-07 | Chapters 1, 7, 8 and 16 of <i>Integrated Risk Management</i> (Doherty) |
| FE-C118-07 | Securitization of Life Insurance Assets and Liabilities |
| FE-C119-07 | Are You Paying Too Much for that Acquisition? |
| FE-C120-07 | Insurance Mergers & Acquisitions |
| FE-C121-07 | Financial Reporting Developments Accounting For Derivative Instruments and Hedging Activities: A Comprehensive Analysis of FASB Statement 113, as Amended and Interpreted (Overview and Appendix C only) |
| FE-C122-07 | FASB Statement of Financial Concepts No. 5–Recognition and Measurement in Financial Statements of Business Enterprises |
| FE-C123-07 | Chapter 4 of <i>The Fair Value of Insurance Business</i> (Vanderhoof) |
| FE-C124-07 | Performance Measurement Using Transfer Pricing |
| FE-C125-07 | Total Return Approach to Performance Measurement |
| FE-C126-07 | Risk Management by Insurers: An Analysis of the Process |
| FE-C127-07 | Asset-Liability Management for Insurers |

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| FE-C128-07 | Asset/Liability Management |
| FE-C129-07 | Principles for the Management of Interest Rate Risk |
| FE-C130-07 | Hedging with Derivatives in Traditional Insurance Products |
| FE-C131-07 | Creating Value in Pension Plans (or, Gentlemen Prefer Bonds) |
| FE-C133-07 | Internal Control—Guidance for Directors on the Combined Code |
| FE-C134-07 | Supervisory Framework—1999 and beyond |
| FE-C135-07 | Financial Oversight of Enron: The SEC and Private-Sector Watchdogs (pages 97-127 only) |
| FE-C136-07 | Enterprise Risk Management and Risk Assessment |
| FE-C137-07 | Moody's Looks at Risk Management & The New Life Insurance Risks, October 2000 |
| FE-C138-07 | Managing The Invisible: Measuring Risk, Managing Capital, Maximizing Value |
| FE-C139-07 | No Assurance of Good Governance: Observations on Corporate Governance in the U.S. Insurance Sector |
| FE-C140-07 | Risk Measurement, Risk Management and Capital Adequacy in Financial Conglomerates (exclude appendices) |
| FE-C141-07 | Letter To SEC Regarding Fitch Ratings' View on the Role and Function of Rating Agencies in the Operation of Securities |
| FE-C142-07 | Theory and Practice of Model Risk Management |
| FE-C143-07 | Dynamic Financial Models of Property-Casualty Insurers |
| FE-C144-07 | Disciplined Decisions Aligning Strategy with the Financial Markets |
| FE-C145-07 | Dynamic Financial Analysis Handbook (Chapters 1[background only], 8 and Appendix A) |
| FE-C147-07 | Derivatives: Practices and Principles |
| FE-C149-07 | Use of Stochastic Techniques to Value Actuarial Liabilities Under Canadian GAAP |
| FE-C150-08 | Chapters 2 and 9 <i>Financial Theory and Corporate Policy</i> |
| FE-C151-08 | Chapter 13 (sections 13.1-13.4) of <i>Life Insurance Products and Finance</i> |
| FE-C152-08 | Chapter 13 of <i>Asset/Liability Management of Financial Institutions</i> |

4. ERRATA: Attached are errata for:

The New Corporate Finance

Investment Guarantees—Modeling and Risk Management for Equity-Linked Life Insurance

Also available at: <http://www.stats.uwaterloo.ca/Faculty/erratum.pdf>

Study Note FE-C117-07 ***Integrated Risk Management***,

Chapter 16, page 600, formula 16.2: In the formula $E(T) = "E - P"$ should be " $E + P$."

5. Study Note FE-C23-08 is a Case Study that will be used as a basis for questions on the Fall examination. Be sure to answer the questions asked by referring to the Case Study. For example, if asked for the advantages of some action the company referenced in the Case Study is considering, limit your response to the specifics for that company. Other advantages should not be listed as they are extraneous to the question and will result in no additional credit. Further, if they conflict with the applicable advantages, no credit will be given for either answer. Candidates are advised to familiarize themselves with the Case Study. A copy will be included in the examination booklet. Candidates will not be allowed to bring their study note copy of the Case Study into the examination room.

The exam comprises three types of question: traditional, integrated and case study. Case study questions could represent a significant portion of the exam.

6. COURSE OVERVIEW

This course trains candidates in the financial aspects of operating and evaluating a financial institution, with particular emphasis on financial risk management. This includes gaining an understanding of several subjects, including capital funding and structure, financial analysis, measuring value, modeling and managing risk, credit risk, and enterprise risk management.

This overview section is intended to provide candidates with an approach for organizing the course of reading for studying the various sections of the course. In addition, the candidates should be familiar with the Learning Outcomes as described in the Fall Basic Education Catalog.

These Learning Outcomes were the first ingredient in developing the syllabus, and will provide an indication of the level of understanding required for each major area of focus. While studying the syllabus material, candidates may want to consider both the organizational approach provided by this overview note, and to refer back to the Learning Outcomes to remain focused on the goals of the Advanced Finance/Enterprise Risk Management course.

The course has been organized into eight major areas of focus, which align with the Learning Outcomes: Product Knowledge, Capital Funding and Structure, Financial Reporting, Measuring Value, Risk Management, Enterprise Risk Management Framework, ERM Fundamentals, and Credit Risk. Note that many syllabus sources relate to more than one topic. Candidates will be expected in the exam to integrate material across the various topics.

The candidate should focus on both the concepts and principles addressed in the course syllabus. Candidates may be asked to apply concepts and principles in a particular context in an examination question. So for example, although the candidate is not expected to remember detailed nation specific capital requirements, the candidate may be expected to understand how to apply capital requirements for products or portfolios within a specific regulatory environment as specified in the examination.

7. Several book distributors carry some or all of the textbooks for the Society of Actuaries courses. A list appears in the *Fall 2008 Catalog*. A set of order forms from these distributors is included with this study note package.

The order forms contain information about prices, shipping charges, mailing policy and credit card acceptance. Any book distributor who carries books for SOA courses may have their order form included in this set unless the SOA office receives substantial complaints about service. Candidates should notify Basic Education Study Materials of the SOA in writing if they encounter serious problems with any distributor.

8. The examination questions for this course will be based on the required readings for this course. If a conflict exists (in definitions, terminology, etc.) between the readings for this course and the readings for other courses, the questions should be answered on the basis of the readings for this course.
9. Candidates may use the battery or solar-powered Texas Instruments BA-35 model calculator, the BA II Plus or TI-30X, TI-30Xa or TI-30X II*. Candidates using any of these calculators need not have calculators with the SOA logo. Candidates may use more than one of the approved calculators during the examinations.

Calculator instructions may not be brought into the exam room. During the exam, the calculator

must be removed from its carrying case so the supervisor can confirm that it is an approved model. Candidates using a calculator other than the approved models will have their exams disqualified. Calculators are no longer available for purchase through the SOA. Candidates can purchase calculators directly from: Texas Instruments, Attn: Order Entry, PO Box 650311, Mail Station 3962, Dallas, TX 75265, phone 800/842-2737 or <http://epsstore.ti.com>.

The memory of **TI-30X II and **BA II Plus** will need to be cleared by the examination supervisor upon the candidate's entrance to the examination room.*

10. Order forms for various seminars/workshops and study manuals are included with this set of study notes. These seminars/workshops and study manuals do not reflect any official interpretation, opinion, or endorsement of the Society of Actuaries or its Education & Examination Committee.
11. The Society of Actuaries provides study notes to persons preparing for this examination. They are intended to acquaint candidates with some of the theoretical and practical considerations involved in the various subjects. While varying opinions are presented where appropriate, limits on the length of the material and other considerations sometimes prevent the inclusion of all possible opinions. These study notes do not, however, represent any official opinion, interpretation or endorsement of the Society of Actuaries. The Society is grateful to the authors for their contributions in preparing study notes.

The American Academy of Actuaries, the Canadian Institute of Actuaries, the Conference of Consulting Actuaries, and the Society of Actuaries jointly sponsor the examinations administered by the Society of Actuaries.

Errata: Exam FE

- **The New Corporate Finance text, 3rd Edition:**

- Section V.28, p. 406 Description for Range Forward arrangement is incorrect; strike price for the call and put should be equal.
- Section V.28, p. 408:
 - o Panel B graph is misleading. It appears that the exercise prices on the call and put are different, and they should be the same.
 - o Panel D graph may be misleading. Assuming that the text is using x , y and z to represent points shown on the graph itself and x is not the strike price since the text does refer to the financial prices rising "by" X rather than "to or above" X then the graph makes sense. If, however, the reader assumes that X is meant to be the strike price (as in previous paragraphs), then two risk lines should intercept at X , not Y - that is, the change in the angle of the "resulting exposure" line should occur at X .

- ***Investment Guarantees; Modeling and Risk Management for Equity-Linked Life Insurance***

Attached is an errata sheet. Also available at:

<http://www.stats.uwaterloo.ca/Faculty/erratum.pdf>