

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

SPRING 2012

ADVANCED FINANCE / ENTERPRISE RISK MANAGEMENT EXAM

INTRODUCTORY STUDY NOTE

1. The Advanced Finance/Enterprise Risk Management examination for Spring 2012 will be given on **Friday, April 27th, 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. The first 15 minutes in the morning session and 15 minutes in the afternoon session will be a read-through before the actual 3 hours of writing begins.
2. The following table shows a recommended FSA module/exam sequence for the Finance/ERM track:

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|-----------------------------------------------------------------------------------------------------------------------------|
| Financial Reporting Module may be taken at any time |
| Operational Risk Module should be taken before the Advanced Finance/Enterprise Risk Management (AFE) Examination |
| Financial and Health Economics Module should be taken before the Financial Economic Theory & Engineering (FETE) Examination |

This order is NOT mandated. Each candidate will determine the appropriate sequence based on factors including readiness to sit for an exam, exam administration schedules, or study time available.

3. Any changes in the Syllabus for this exam will be published under “Updates” on this exam’s home page of the SOA Web site.

The Syllabus material includes textbooks, online published readings, as well as the study notes listed below. A complete listing of the Syllabus and Learning Objectives is located in this exam’s home page on the SOA Web site.

| CODE | TITLE |
|------------|--------------------------------------------------------------------------------------------------------|
| | Case Study (Available on syllabus page of Web site) |
| FE-C102-07 | General American Life Can’t Pay Investors, Looks at Suitors |
| FE-C106-07 | Mapping of Life Insurance Risks AAA Report to NAIC |
| FE-C117-07 | Chapters 1, 7 and 8 of <i>Integrated Risk Management</i> (Doherty) |
| FE-C130-07 | Hedging with Derivatives in Traditional Insurance Products |
| FE-C138-07 | Managing The Invisible: Measuring Risk, Managing Capital, Maximizing Value |
| FE-C140-07 | Risk Measurement, Risk Management and Capital Adequacy in Financial Conglomerates (exclude appendices) |
| FE-C143-07 | Dynamic Financial Models of Property-Casualty Insurers |
| FE-C147-07 | Derivatives: Practices and Principles # |
| FE-C151-08 | Chapter 13 (sections 13.1-13.4) of <i>Life Insurance Products and Finance</i> |

| CODE | TITLE |
|------------|----------------------------------------------------------------------------------------------------------|
| FE-C156-09 | Key Rate Durations: Measures of Interest Rate Risks |
| FE-C159-09 | Countering the Biggest Risk of All |
| FE-C162-09 | EVA & Strategy |
| FE-C166-09 | Black Monday and Black Swans |
| FE-C170-09 | Why COSO is Flawed |
| FE-C172-09 | Enterprise Risk Management–Integrated Framework (Executive Summary) |
| FE-C174-10 | Deciphering the Liquidity and Credit Crunch 2007–2008 |
| FE-C175-11 | Learning from the 2009 H1N1 Influenza Pandemic |
| FE-C176-11 | <i>The Known, the Unknown, and the Unknowable in Financial Risk Management</i> , Chapter 3 |
| FE-C177-11 | A Market Cost of Capital Approach to Market Value Margins |
| FE-C178-11 | Economic Capital Modeling: Practical Considerations |
| FE-C179-11 | <i>Insurance Industry Mergers and Acquisitions</i> , Chapter 4, Sections 1–5 |
| FE-C180-11 | Measurement and Modelling of Dependencies in Economic Capital |
| FE-C181-11 | Value-at-Risk: Evolution, Deficiencies and Alternatives |
| FE-C182-11 | <i>Integrated Risk Management</i> , Chapter 16 |
| FE-C183-11 | Revisiting the Role of Insurance Company ALM within a Risk Management Framework |
| FE-C184-11 | A Comparative Analysis of U.S., Canadian and Solvency II Capital Adequacy Requirements in Life Insurance |
| FE-C185-11 | A Principles-Based Reserves and Capital Standard |
| FE-C186-11 | Methodology: Assessing Management's Commitment to and Execution of Enterprise Risk Management Processes |
| FE-C187-11 | Market Consistent Embedded Value Principles |

#FE-C147-07 There has been 2 printings of this booklet with different page numbering. The required readings are Recommendations 9–24 and Section III, Assessing and Managing the Risks of Derivatives

4. ERRATA:

Attached are errata for:

Investment Guarantees; Modeling and Risk Management for Equity-Linked Life Insurance <http://www.stats.uwaterloo.ca/Faculty/erratum.pdf>

5. A Case Study will be used as a basis for questions on the 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.

6. **EXAM OVERVIEW**

The syllabus for this exam trains candidates in the financial and risk management aspects of operating and evaluating a financial institution or other entity, with particular emphasis on enterprise risk management (ERM) concepts. This includes gaining an understanding of several subjects, including risk identification, risk measurement and management, financial analysis, and

measuring value.

This overview section is intended to provide candidates with an approach for organizing the course of reading for studying the various sections of the syllabus. In addition, the candidates should be familiar with the Learning Objectives as described in the syllabus. These Learning Objectives 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 Objectives to remain focused on the goals of the Advanced Finance/Enterprise Risk Management exam.

The syllabus has been organized into six major areas of focus, which align with the Learning Objectives: Risk Categories and Identification; Accounting and Value Measures; Risk Quantification and Risk Measures; Risk Management; Enterprise Risk Management Framework; and Enterprise Risk Management Process. Note that many syllabus sources relate to more than one topic. In the exam, candidates will be expected to integrate material across the various topics.

The candidate should focus on both the concepts and principles addressed in the exam 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.

The exam is composed of three types of questions: Focus (covers single Learning Objective), Integrated (synthesizes multiple Learning Objectives) and Case Study.

7. Several book distributors carry some or all of the textbooks for the Society of Actuaries exams. A list appears on the SOA Web site <http://www.soa.org/education/exam-req/resources/edu-txt-manuals.aspx>.
8. The examination questions for this exam will be based on the required readings for this exam. If a conflict exists (in definitions, terminology, etc.) between the readings for this exam and the readings for other exams, the questions should be answered on the basis of the readings for this exam.
9. Candidates may ONLY use the battery or solar-powered Texas Instruments BA-35 model calculator, the BA II Plus* the BAII Plus Professional* or TI-30Xa or TI-30X II* (IIS solar or IIB battery) or TI-30X MultiView (XS solar or XB battery). 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.

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, TI-30X MultiView, BA II Plus and BAII Plus Professional will need to be cleared by the examination supervisor upon the candidate's entrance to the examination room.*

10. A list of various seminars/workshops and study manuals appears on the SOA Web site <http://www.soa.org/education/exam-reg/resources/edu-sem-workshops.aspx> and <http://www.soa.org/education/exam-reg/resources/edu-txt-manuals.aspx>. 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.

Please note that the Examination Committee expects candidates to read the material cited in the *Syllabus* and to use other material as a complement to the primary sources rather than a substitution for them.

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.