



# The Quantitative Finance and Investment Track

## A guide to Fellowship

The Quantitative Finance and Investment (QFI) track is intended for actuaries who desire to work with investments. The investment actuary will excel in situations where investment decisions are being made in the context of significant and complex liabilities.

### A career with impact

Actuaries play a critical role in business and society, helping organizations manage increasingly complex risks. A career as an actuary offers great professional satisfaction, fulfillment and financial reward. As members of the most innovative actuarial society in the world, **SOA's** elite actuaries enjoy even more.

### The SOA difference

The largest global professional actuarial association—with over 27,000 members in 82 countries—we cultivate highly skilled, well-rounded individuals who can act as technical experts, business professionals and the leaders of tomorrow. Our goal is to empower our actuaries to drive better decisions for their organizations and have a positive impact on society.

To that end, the SOA has the most extensive resources invested in education, research and the future of the profession. From our rigorous exam process to our philosophy of continuous improvement, our education is simply unsurpassed—making our credentials globally recognized and in demand.

### Our philosophy in action

We are pioneers in the use of e-learning, virtual sessions and computer-based testing. SOA exam committees draw on experienced professional actuaries and the sharpest minds in the field.

- Pedagogy, curriculum, content, delivery and validation based on up-to-date knowledge, and grounded in professional education theory and testing/measurement best practices
- Practice-focused education, imparting skills and knowledge, and how to apply them
- Curricula regularly reviewed and updated by experienced actuaries in the field to ensure relevance
- Nearly 40 dedicated full-time education professionals on staff, including actuaries and Ph.D.s, supported by 1,100 education volunteers
- Education system that fosters integrity and professionalism

Exams and other assessments are designed to carefully test a **candidate's** understanding and ability to make use of material.

Additionally:

- Fellow of the Society of Actuaries (FSA) exam material is rigorously tested, using proctored exams with carefully constructed grading process and assessment methodology that is robust, standardized, reliable and valid
- Unique to SOA pathways are modules that use a case study to showcase real-life applications and allow for more in-depth questions
- Examinations measure **candidates'** level of achievement of required learning objectives and capability of accomplishing specified learning outcomes

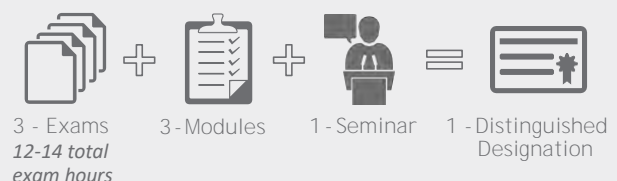
### Our commitment to you

The SOA is committed to meeting the needs of candidates and employers by:

- Maintaining credentials that demonstrate a mastery of risk management, analytic and communication skills
- Inspiring professionalism through commitment to the Professional Code of Conduct and Candidate Code of Conduct
- Ensuring that SOA actuaries are equipped to tackle challenges for companies in a global economy
- Ensuring employers can rely on SOA members to have the appropriate knowledge and abilities, and access to the most career-long learning programs available
- Exposing all candidates to different practice areas so they may take relevant learnings from each
- Giving candidates the ability to postpone specialty decision until the Associate of the Society of Actuaries (ASA) designation is achieved
- Investing in education, research and the future of the profession

***Trust in the advantages of a rigorous and cutting-edge education that the Society of Actuaries can provide.***

#### The SOA QFI pathway, at a glance





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### What does this track encompass?

This track provides candidates with the skills to thrive in functions such as hedging, pension plan portfolio management, insurance company portfolio management, asset-liability management, and variable and fixed indexed annuity product management.

- Scenario Modeling Module  
**What candidates gain:** Extensive practice building and running the types of economic scenarios that you may be required to create as an actuary. Experience how RStudio can be used to build simulations, apply variance reduction techniques, and calibrate and validate stochastic models.
- QFI Quantitative Finance Exam  
**What candidates gain:** An understanding of the fundamentals of the mathematics and economics underlying quantitative methods in finance and investment. Option pricing theory, financial derivatives, fixed-income and equity hedging and applications are covered.
- Financial Modeling Module  
**What candidates gain:** A hands-on introduction to financial risk models and risk mitigation methods. Candidates will work with models for hedging the features of two annuity products.
- QFI Portfolio Management Exam  
**What candidates gain:** A clear grounding in fixed income and equity asset classes, credit risk, liquidity risk, investment policy, regulatory frameworks and asset liability management.
- ERM Module\*  
**What candidates gain:** A thorough understanding of operational risks and the ability to develop and analyze economic capital models. Candidates will also be exposed to leading risk management approaches.

- Investment Risk Management (IRM) Exam or ERM Exam\*

#### **What candidates gain (IRM Exam):**

Techniques for measuring and managing investment risk will be explored.

**What candidates gain (ERM Exam):** Familiarity with key topics in enterprise risk management, including the ability to understand, identify, analyze, measure, manage and allocate risk using models and metrics.

Recommended order of exam and modules for track at [soa.org/education/exam-req/edu-new-fsa-recommended/](https://soa.org/education/exam-req/edu-new-fsa-recommended/)

Additional FSA candidate requirements:

- Decision Making and Communication (DMAC) Module
- Fellowship Admissions Course (FAC)

**\*Candidates completing the ERM Module and Exam (and other requirements) also earn the CERA credential.**

### What does it mean to be a member of the SOA?

All FSAs credentialed by the Society of Actuaries are members of the SOA. As members of the SOA, FSAs are able to draw on its vast network and enjoy exclusive benefits, including access to:

- Advanced actuarial and risk management education and knowledge-sharing opportunities
- The most research and variety of publications on an array of risk management topics that will help in their jobs
- Members-only social and professional networking communities
- Members-only pricing on professional development opportunities

Members also enjoy rich leadership and volunteer experiences, having a significant impact on the actuarial and business community—and society at large—by helping to shape curriculum, perform candidate outreach, enhance media visibility, and contribute to the development of thought leadership and research.

Learn more about the QFI pathway at [soa.org/pathways](https://soa.org/pathways).

Stay connected with the Society of Actuaries' social network.

