Introduction to SOA
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What is Society of Actuaries?

Our Vision
The SOA is the leading provider of globally recognized credentials establishing actuaries as business leaders who measure and manage risk to support financial security for individuals, organizations and the public.

Our Mission
The SOA, through research and education, advances actuarial knowledge and improves decision making to benefit society. The SOA enhances the ability of actuaries to be trusted financial and business advisors on problems that involve uncertain future events. The SOA provides and ensures the integrity and relevance of its credentials.
Number of Membership

Credit: SOA 2016 Year in Review Annual Report
Members by different regions

**Members by Region**

27,770 total membership count for 2016

<table>
<thead>
<tr>
<th>Region</th>
<th>2016 % Growth Over 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>4.5%</td>
</tr>
<tr>
<td>Canada</td>
<td>2.8%</td>
</tr>
<tr>
<td>China</td>
<td>10.3%</td>
</tr>
<tr>
<td>Asia*</td>
<td>7.7%</td>
</tr>
<tr>
<td>Latin America**</td>
<td>11.8%</td>
</tr>
<tr>
<td>Rest of the world</td>
<td>7.4%</td>
</tr>
</tbody>
</table>

**Candidates by Region**

37,049 current candidates for 2016

<table>
<thead>
<tr>
<th>Region</th>
<th>2016 % Growth Over 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>1.4% (0.1%)</td>
</tr>
<tr>
<td>Canada</td>
<td>8.9%</td>
</tr>
<tr>
<td>China</td>
<td>7.2%</td>
</tr>
<tr>
<td>Asia*</td>
<td>14.5%</td>
</tr>
<tr>
<td>Latin America**</td>
<td>11.5%</td>
</tr>
<tr>
<td>Rest of the world</td>
<td>1.1%</td>
</tr>
</tbody>
</table>

*Hong Kong, Indonesia, South Korea, Macao, Malaysia, Singapore, Taiwan and Thailand
**Argentina, Brazil, Chile and Columbia
Different Tracks

- Life
- Retirement
- Health
- Finance
- Risk Management
- General Insurance
- Investment
- ...

...
Percentage of areas of practice

Credit: SOA 2016 Year in Review Annual Report
Life Insurance Actuaries

The long term nature of life insurance and annuity liabilities places an emphasis on financial concepts such as the time value of money, present values, and rates of return.

• Design and pricing of products
• Valuing liabilities
• Estimating fair value for accounts
• Analysis of experience
• Asset/Liability management
• Investment strategy
Retirement Actuaries

**Defined Benefit (DB)**
- There is a pre-defined formula to calculate your monthly benefit
- Risk is on the employer

**Defined Contribution (DC)**
- Certain percentage put aside by employer each month to save for retirement
- Risk is on the employee
- Such as 401(k) Plan
Health Insurance (Carrier)

• **Who are our clients?**
  - Internal: actuarial pricing
  - Internal: non-actuarial (finance, underwriting, sales, legal, health program, and product design teams)
  - External: State regulators, DOI

• **What kind of work do we do for these clients?**
  - Pricing, risk adjustment, and compliance testing
  - Cost of care, Utilization, trend analysis
  - Premium forecasting
  - Rate filings

• **Why health insurance?**
  - Less stress, more time to study, constantly changing
Health and Benefits Consulting

- Fully Insured vs Self Insured
- What kind of work do we do for these clients?
  - Pricing and plan design
  - Their reserving and financial reports
  - Claim experience and financial analysis
- Why health consulting?
  - There is always work: frequent healthcare reform
  - Client meetings
Self Insured vs Fully Insured

In a self-insured plan, instead of purchasing health insurance from an insurance company, the employer acts as its own insurer.

In the simplest form, the employer uses the money that it would have paid the insurance company and instead directly pays health care claims to providers.

In a fully insured plan, the employer pays a per-employee premium to an insurance company, and the insurance company assumes the risk of providing health coverage for insured events.
Companies

Health Insurance

- BlueShield
- Kaiser Permanente
- United Healthcare
- Cigna
- Anthem
Areas of Actuarial Work

- Business Environment
  - Solvency → Risks
  - Profit
  - Experience
  - Asset and Liability Management
  - Assets
  - Liabilities
  - Pricing
  - Design
  - Capital

- Professionalism
Areas of Actuarial Work

• **Risks**
  • Actuaries are often involved in the risk assessment process. They identify the specific risks that can affect insurers and consider the relevance of those risks to a particular insurer. They seek to quantify the most relevant risks, and use this information to assess the potential effect of those risks on the insurer’s financial situation.

• **Product Design**
  • Actuaries assist in identifying market needs, for example, through the analysis of sales patterns, competitors’ products, and social and demographic trends. They work with others, such as marketing, underwriting, and investment experts, on product design teams.


• **Pricing**
  • Prices must be reasonable from the policyholders’ perspective, being equitable among various classes of policyholders and bearing a reasonable relationship to the benefits provided by the policy.

• **Liabilities**
  • The primary objective when establishing technical provisions is to ensure that they adequately recognize the extent of the insurer’s obligations to policyholders.
  • If not, and the technical provisions proved to be inadequate, the insurer could eventually find itself with insufficient assets to meet its obligations and thus become insolvent.
Pathway to Associate

Fundamentals of Actuarial Practice

Exam P
Exam FM
Exam MFE
Exam MLC
Exam C
APC

VEE

Validation by Educational Experience

Associateship Professionalism Course
Pathway to Fellowship

- Corporate Finance and ERM
- Individual Life and Annuities
- Group and Health
- Quantitative Finance and Investment
- Retirement Benefits
- General Insurance
Pathway to CERA (Chartered Enterprise Risk Analyst)
Recent Changes: July 1st, 2018

Current
- Economics
- Corporate Finance
- Applied Statistics
- Probability
- Financial Mathematics
- Models for Financial Economics
- Models for Life Contingencies
- Construction of Actuarial Models
- Fundamentals of Actuarial Practice
- Associateship Professionalism Course

New
- Economics
- Accounting and Finance
- Mathematical Statistics
- Statistics for Risk Modeling
- Probability
- Financial Mathematics
- Investment and Financial Markets
- Long-Term Actuarial Mathematics
- Short-Term Actuarial Mathematics
- Predictive Analytics
- Fundamentals of Actuarial Practice
- Associateship Professionalism Course

KEY
- VEE
- Exam
- TBD
- E-Learning Module
- Seminar
Recent Changes: FM, MFE

**FM – Starting June 2017**
- All derivatives material removed, except interest rate swaps (see new study note)
- New study note on a better approximation when using duration to estimate the effect of a change in interest rates.
- New study note on determinants of interest rates
- No change in approved texts, but some sections may have changed.
- Instant (unofficial) results.

**MFE – Starting July 2017**
- Derivatives material moved from FM.
- Some advanced topics removed.
- McDonald continues to be the only approved reference.
- *Instant results will not be available.*
2018 ASA Changes Announcement – March 31, 2017

Implementation of changes to Exams P and FM to be delayed by one exam administration

While there are six administrations per year for both exam P and FM, the item banks for the exams are updated three times per year. To ensure a smooth transition, implementation of the 2018 changes to exams P and FM will occur after the second update of 2018. This will delay the implementation for these two exams by one administration.

- First Exam P administration under new ASA curriculum – September 2018
- First Exam FM administration under new ASA curriculum – October 2018
Other Resources

- Meetings, Seminars and Symposia
- From SOA candidate connect meetings; to SOA seminars on specific practice areas or industries; to SOA symposia, which are interactive and often include a call for papers or session ideas—there's sure to be an SOA event you'll want to attend.
- Webcasts and Virtual Sessions
- An SOA virtual session is usually a broadcast of a live SOA event, such as a session during a conference. As a virtual session participant, you'll log in to a special website to attend live via streaming video and audio. An SOA webcast also occurs in real-time but it's not part of a larger event, such as a conference. As a webcast participant, you log in to a special website to attend online, listen to the speaker and view a slide presentation.
Thank You!