



Actuary 101

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Discussion Points



Actuary 101



Recruitment



Q&A



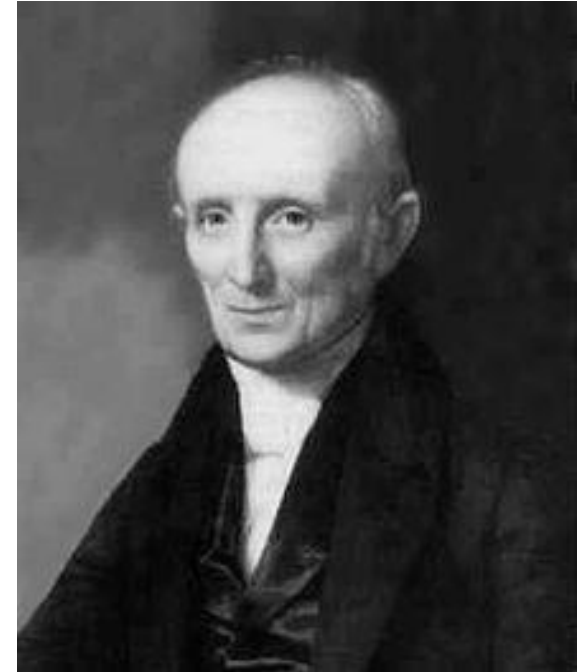
Actuarial 101

Actuary 101

- What is an Actuary?
- Areas of Work
- Why be an Actuary?
- What is the difference – CAS and SOA?
- Career Paths
- What skills are needed to be an Actuary?

What is an Actuary?

- A business professional who deals with the financial impact of risk and uncertainty
- Analyzes, manages and measures the financial implications of future risk
- Develops and validates models and communicate results to guide decision-making
- “Calculates the price tag on risk transfer”



Area of Work

- Insurance Industry
 - Property and casualty (P/C)
 - Life and annuities
- Employee Benefit Industry
 - Retirement benefits
 - Health benefits
- Financial Services Industry
 - Banks, investments, risk management
 - Mergers & Acquisitions
- Government
 - Social Security
 - Regulation of insurance companies

Typical Actuarial Projects

- Property/Casualty:
 - Estimating the amount of money to be set aside for insurance claims that have not been paid
- Life Insurance:
 - Designing and pricing life insurance products
- Health Benefits:
 - Setting HMO premium rates.
- Retirement Systems:
 - Pricing the cost of increasing retirement benefits
- Finance & Investments:
 - Portfolio diversification studies

Why be an Actuary?

- Prestige
 - Overall, a highly ranked profession
- High earnings potential
- Exams
 - No “glass ceiling”
 - Graduate school not required – no loans to repay
- Job market advantage
 - Advancement opportunities expand throughout career
 - Variety of avenues to choose: PC, Life, HB, Retirement, Investment
 - High demand – less sensitive to economic cycles
 - Job security

Career Outlook

- Employment growth for consulting actuaries
- Development of new financial tools
- Growing ability to model risks
- Growth in the health services industry
- Growth in risk management

Professional Exams and Study Benefits

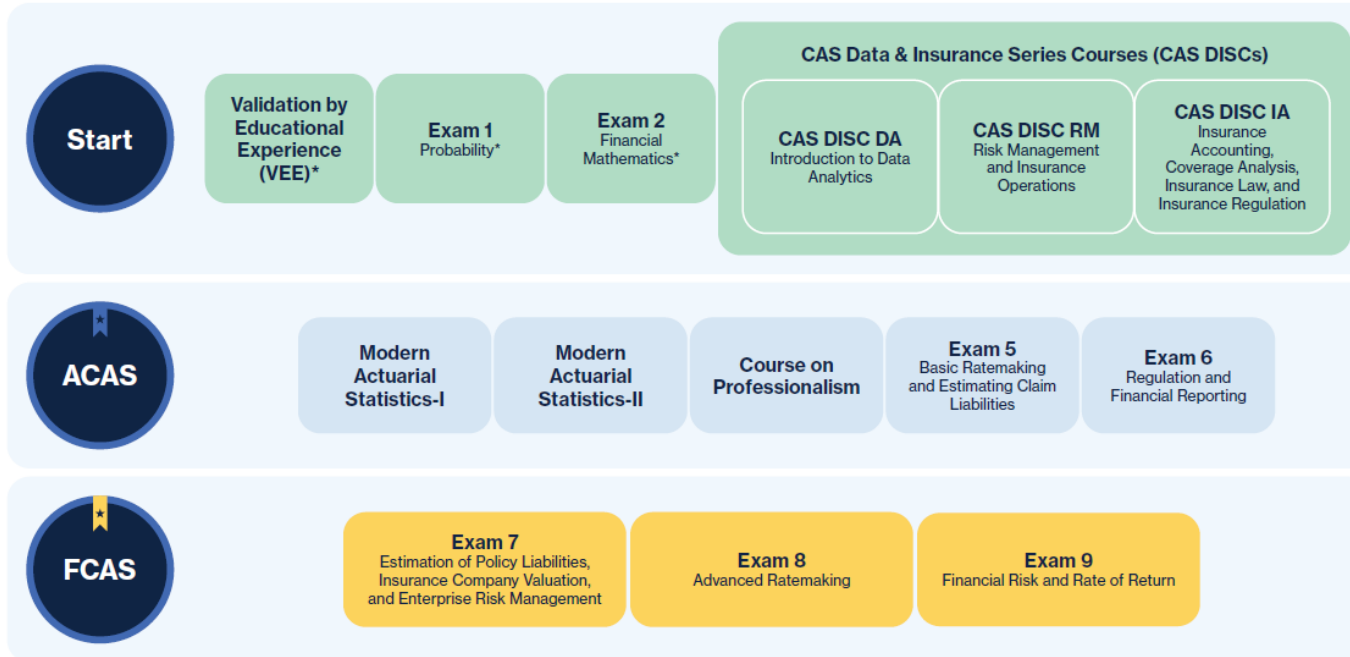
- ~10 Actuarial exams plus various modules, depending on the path.
Typically 6-12 years to complete
- Paid Study Time (100 – 120 hours per exam is not uncommon)
- Raises or bonuses for each exam (\$3,000 - \$5,000 range), and for each designation (\$5,000 - \$7,500)
- Company pays for exam materials, seminars, exam fees, etc. (roughly about \$2,000 - \$5,000 cost/exam)

CAS New Syllabus to FCAS



Educational Journey 2023

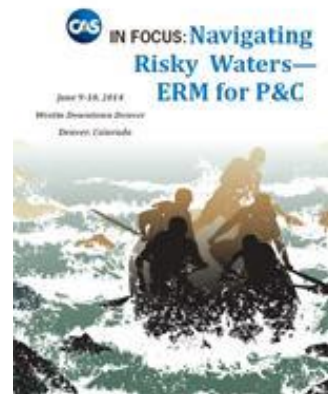
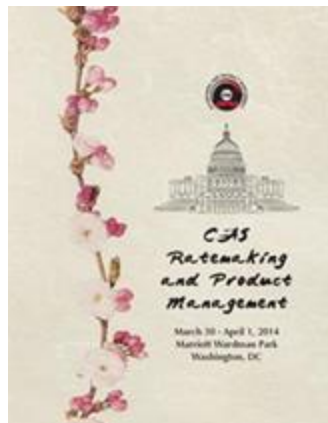
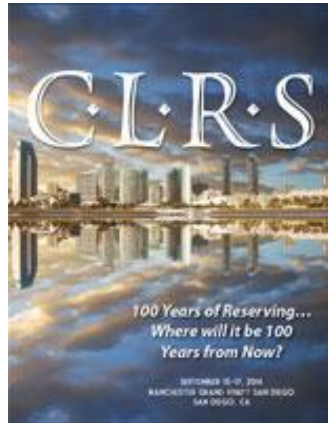
Actuarial candidates must pass a series of exams to become credentialed property and casualty actuaries and CAS members. The requirements outlined here will help guide you to the highly coveted Associate (ACAS) and Fellow (FCAS) designations.



**The CAS will grant waivers for candidates who pass examinations offered by other organizations that cover our CAS learning objectives.*

For more information, visit casact.org/credential-requirements.

What do Property/Casualty Actuaries do?



- Ratemaking
- Reserving
- Capital Adequacy
- Reinsurance
- ERM
- Trends

Insurance is fun, no matter what they say.



LLOYD'S

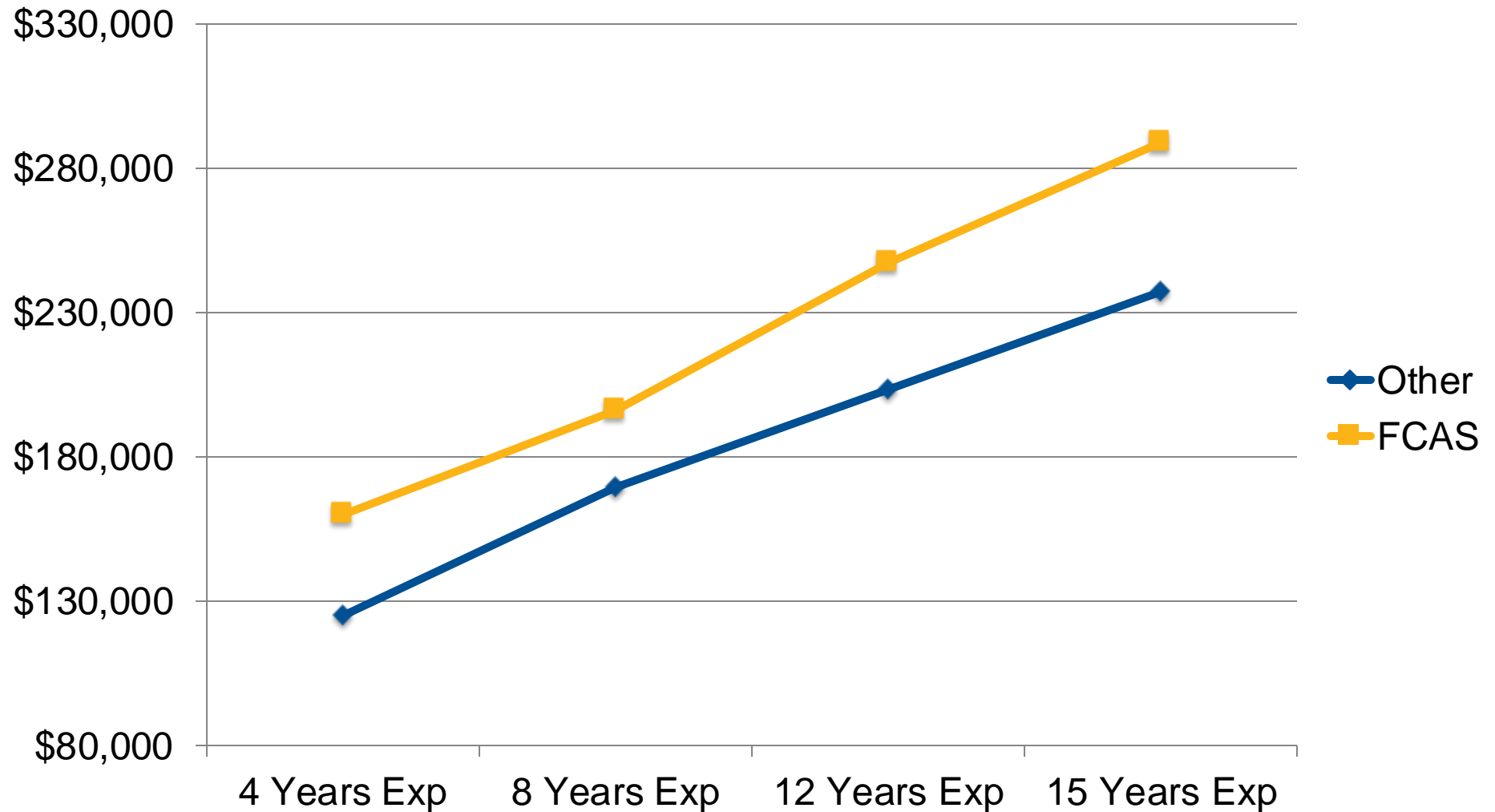


Skills Needed on the Job

- Technical
 - Understanding of math, probability, and statistics
 - Ability to apply actuarial techniques
 - Critical thinking/informed judgment
 - Programming
- Soft
 - **Communication**
 - Handling pressure
 - Business etiquette



Salary Comparisons





Recruitment

Discussion Points

- Resume Preparation
- Job Searching
- Interview Tips
- Misc.
- Internship Experience

Why is a Strong Resume Important?

- It's the first thing a recruiter sees about you.
 - Your personal “sell sheet”
 - An advertisement for you that should reflect your brand
- Your chance to highlight why you would be valuable to a company.
 - Examples include:
 - Career goals
 - Technological skills
 - Analytical skills
 - Leadership skills
 - Communication Skills
- Demonstrates your written communication and organization skills.

Be a Well Rounded Candidate on Your Resume

- Companies look for candidates who can demonstrate:
 - Quality leadership skills (student government, volunteering)
 - Strong academic success (GPA, Professional Exams, Case Competition)
 - Excellent time-management skills (Extra-curricular activities)
 - Stellar communication abilities (Toast Master membership, frequent presenter)
- Certificate: MOS, CPCU, SAS Cert., DataCamp or Coursera Completion cert.
- Academic Projects/Case Comp: Kaggle

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Events & Networking:

- Career Fair
- Company Info Sessions
- Case Competitions
- University Actuarial Society Leadership Roles
- Other seminars (University liaison, resume correction, excel, R/Python training)
- LinkedIn networking
 - Long term relationship
- Mentorship programs
 - Aon Mentorship program

Top Employers of CAS Members

Company or Organization	Number Employed	% of CAS membership
Liberty Mutual Group	453	4.6
Zurich (including Farmers)	260	2.6
The Travelers Companies	246	2.5
Intact	209	2.1
Aon	208	2.1
Marsh (including Guy Carpenter & Oliver Wyman)	205	2.1
Allstate Insurance	195	2.0
Chubb	179	1.8
AIG	150	1.5
Towers Watson	137	1.4
Milliman, Inc.	131	1.3
USAA	118	1.2

Other Actuarial Companies in Various Fields

- PC:
 - Traveler, Chubb, Applied Underwriter, Berkshire Specialty, AIG, AAA, State Farm, Farmers, Zurich, Munich re, Swiss re, Modern America, CNA, Hartford, ISO, NCCI, WCIRB, nationwide, USAA, Liberty Mutual, etc.
- Life:
 - Pacific Life, MetLife, NY Life, AIG, Transamerica, Prudential, Mass Mutual, etc.
- Health:
 - UnitedHealth, Anthem, Aetna, Kaiser Permanente, Cigna, Humana, Molina, Healthnet, Oscar, CVS, Trupanion, Beam, Delta dental, Blue Cross Blue Shield
- Provide Sponsorship 2023 data:
 - Aon, Milliman (by office), Munich re, Corbridge, CVS, Network Life, Cigna

International Opportunities

2021 Geographic Distribution - CAS			
United States	7,704	Singapore	46
Canada	1,130	United Kingdom	45
China	144	Switzerland	35
Bermuda	109	Malaysia	28
Hong Kong	57	Other	150

- CAS & SOA Actuary Directory:
 - <https://www.casact.org/membership/find-actuary/>
 - <https://www.actuarialdirectory.org/>
- Company name, location, website, fellows & associates contact information

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Interview Process

- Round 1: Phone screen with HR (no need if it is campus interview)
- Round 2: Hiring manager interview (or senior interview)
- Round 3: Group interview
 - 1 on 1 interview with multiple rounds or,
 - Panel interview with 2+ interviewers
 - Panel interview, multiple interviewees and multiple interviewers (rare)
- Optional: Case Study (take home interview project)

Interview Preparation I

- Read the JOB POST!!!
- Company Research
 - Background Info (why you want to come to our company?)
 - Competitor research (show your knowledge of the whole industry, find a few differences and similarities to impress the hiring managers)
 - Google news for recent company development (can be a good discussion topic)
 - Products (position related)
 - Interviewer info (LinkedIn)
 - How long with the firm
 - Education background
 - Previous job
 - Any common topics
 - Glassdoor research
 - Interview process
 - Prior questions asked etc.

Interview Preparation II

- Be ready to support everything on your resume.
- Behavior Questions
 - Prepare question bank
 - Frequently asked questions, general questions
 - Questions from Glassdoor
 - Write short essay on each question (related to experiences on your resume)
 - Memorize and Practice
- Technical Questions
 - Search questions from Glassdoor
 - Prepare questions on commonly used tools: Excel, SQL, R/Python, BI apps
 - Prepare a couple of actuarial concepts: Central limit theorem, Time value theory
 - Practice—ChatGPT & CoLab-Google

Interview Preparation III

■ Questions to Ask

- Can you describe the duties of the job for me?
- Can you describe your company's study program for me?
- What do you like best about your company?
- What skills are especially important for someone in this position?
- What does a typical day look like for this position?
- What projects is the department working on, and can you please describe any upcoming projects?
- Is there a busy season? When is it?
- What is the typical career path for this position?
- How much of the day-to-day work will be individual contributor versus team-based and project work?
- Some questions related to the topics discussed during the interview, such as some software mentioned, or some projects that you are interested in.
- When should I expect to hear from you or should I contact you?

Questions to Avoid Asking in Interview

- What does this company do?
- Will I have to work overtime?
- What do I have to do to get to your position?
- Why do you think I'd be a good fit for the company?
- If I get the job, how soon can I use my vacation?
- How much will I get paid?

Interview Follow-Up

- Thank you notes are a powerful tool.
 - Handwritten letter is nice but e-mail is now universally accepted.
 - Send in a timely manner -- 1-2 days is ideal to maximize impression with the interviewers.
 - Do not send the exact same letter to everyone in the company who you met.
 - Spell-check and proof-read any of your communications prior to sending.

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Other Tips

- Exams are important, but no more than 4 if you don't have any experience
- You can try to extend your Internship from 10 weeks to 6 months (part-time)
- Networking is a big part of the working world
- Internal referral can increase the chance
- Once hired, but you have another position you are waiting for results, ask more time but no more than 2 weeks.
- Internship is important, even it is not directly relevant to the position
- Internal transfer is way easier than external applicants
 - Risk management / Underwriting / Commercial Brokerage / Pension admin
 - Other Analyst jobs in insurance companies
 - Catastrophic modeler
 - Actuarial contractor jobs

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Cherry Li — Risk Consulting Actuarial Intern at Aon

- Loss Reserving Reports
 - Cleaning & summarizing claims data
 - Checking and fixing any potential data issues
 - Loading data into models (popular reserving methods)
 - Making selections (done by credentialed actuaries)
 - Compiling & exporting report
- Research & Development
 - Gathering & cleaning data
 - Researching & categorizing large losses (liability coverage types)
- Programs used: Excel and R
- Networking and learning opportunities!
- Key Takeaways: reach out for opportunities, fast learner, be curious!

Danh Tran — Summer 2024 Internship Experience

- 4th year – Financial Actuarial Mathematics
- Blue Shield of California, Individual and Family Pricing
 - Helped with indicating and filing 2025 rates for individuals like us and our families!
- SAS/SQL & Excel functions: SUMPRODUCT, IFERROR, VLOOKUP
 - PIC 10A, 16A, Stats 20 + attended all BAS Excel workshops
- Ask questions, speak to as many people as you can, BE A SPONGE

Questions?



Thank you!

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