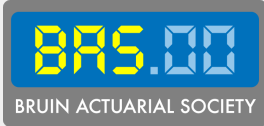


ACTUARIAL FIELDS WORKSHOP

GET TO KNOW THE **CAREER PATHS** AVAILABLE TO YOU



AGENDA

Overview

Insurance

Consulting

Insurance vs Consulting

Non-Traditional Actuarial Roles





01.

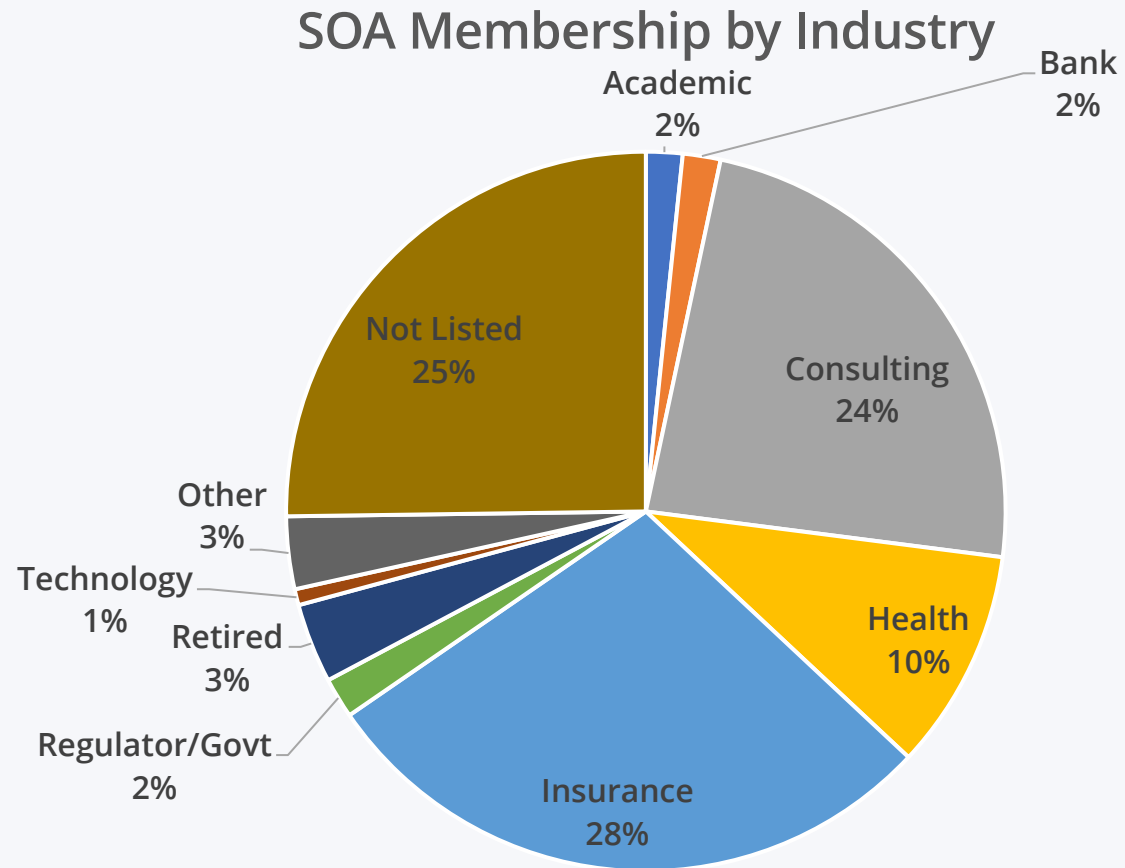
Overview

WHAT IS AN ACTUARY?

- ❑ A business professional who uses statistical techniques to **put price tags on risks** by referring to historical data
- ❑ Actuaries calculate the costs of uncertain future events that range from various natural disasters, such as tornados and hurricanes, to changes in life expectancy



WHERE DO ACTUARIES WORK?



WHERE DO ACTUARIES WORK?

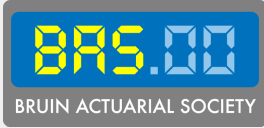
- ❑ Actuaries work in insurance companies, consulting firms, accounting firms, governments, tech companies, and more.

Major Lines of Business

- Health and Benefits
- Property and Casualty
- Retirement
- Life
- Reinsurance

Other Roles

- Data Mining
- Catastrophe Modelling
- Investment Management
- Software Development
- Quantitative Analytics

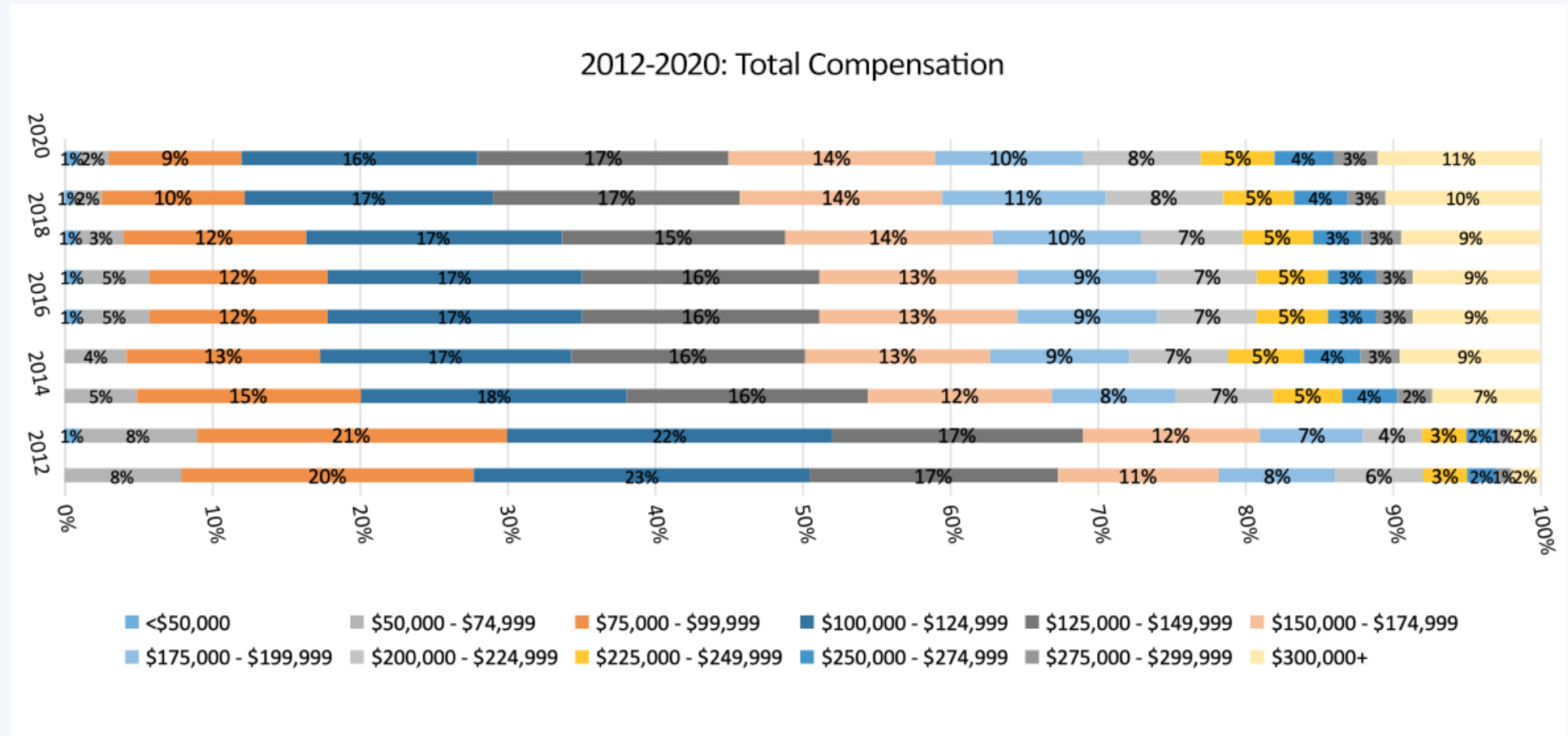


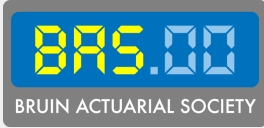
WHY BECOME AN ACTUARY?

- ✓ Low Stress
- ✓ High Compensation
- ✓ Impactful work
- ✓ Low unemployment rate
- ✓ Balanced Lifestyle
- ✓ Employer-funded exam progression
 - ✓ No graduate school
- ✓ Steady career progression
 - ✓ Objective salary increase (with exams)
- ✓ High Job Security
 - ✓ No computer can replicate our work
 - ✓ Risk management is more important during economic recessions

Rank [↑]	Job Title [↕]	Most Common Major	% Workers with Major [↕]	Mid-Career Pay [!] [↕]	% High Job Meaning [!] [↕]
1	Actuary	Mathematics	57%	\$135,000	39%
2	Senior Data Scientist	Statistics	30%	\$127,000	-
3	Data Scientist	Mathematics	27%	\$113,000	40%
4	Data Engineer	Mathematics	34%	\$111,000	39%
5	Quantitative Analyst	Statistics	29%	\$110,000	-
6	Senior Actuarial Analyst	Mathematics	51%	\$102,000	37%

ACTUARIAL COMPENSATION





ACTUARIAL ORGANIZATION

- ❑ There are two main actuarial organizations that govern different practices
 - ❑ Within each practice, actuaries can be divided into Insurance or Consulting



- Health
- Life
- Retirement



- Property and Casualty



02.

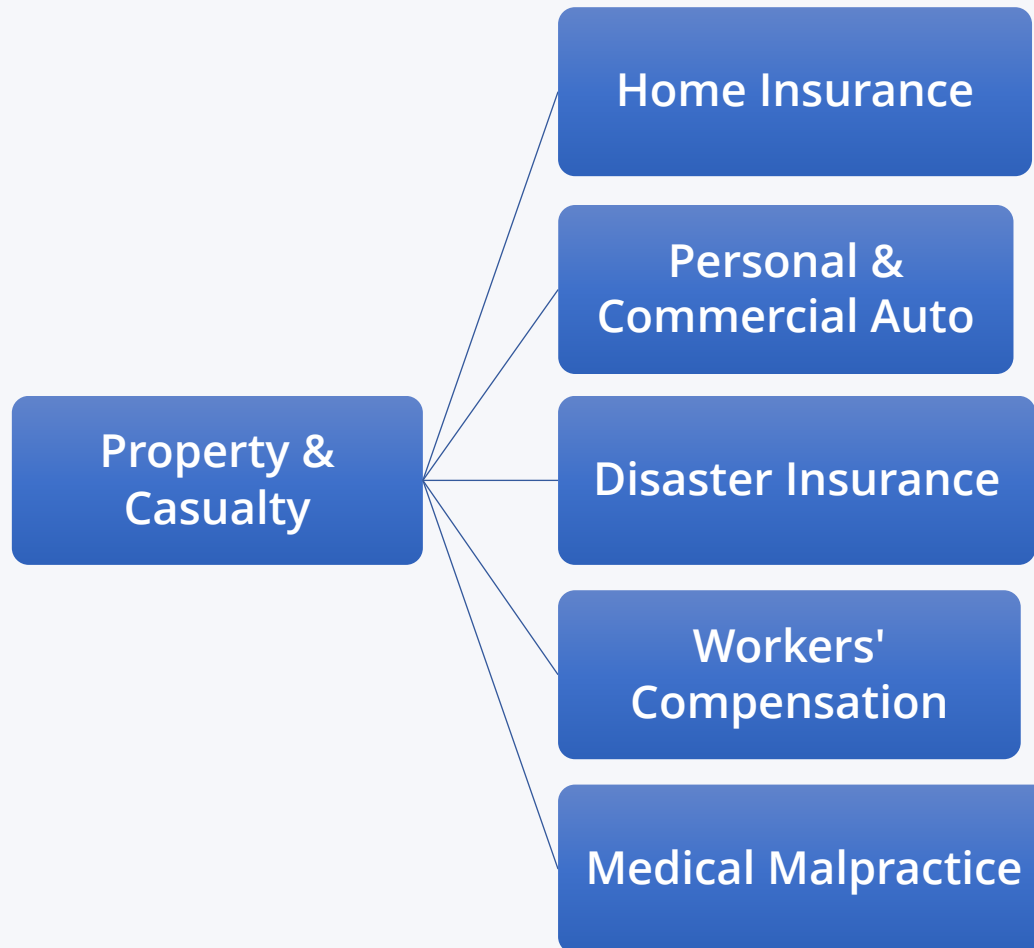
Insurance

PROPERTY AND CASUALTY

P&C actuaries help protect individuals and businesses against losses from automobile accidents, property damage, theft, and commercial liability. New technologies and developments in predictive analytics and modeling allow P&C actuaries to quantify and manage emerging risks such as self driving cars, climate change, and ridesharing.



PROPERTY AND CASUALTY





QUESTIONS P&C ACTUARIES MIGHT ANSWER

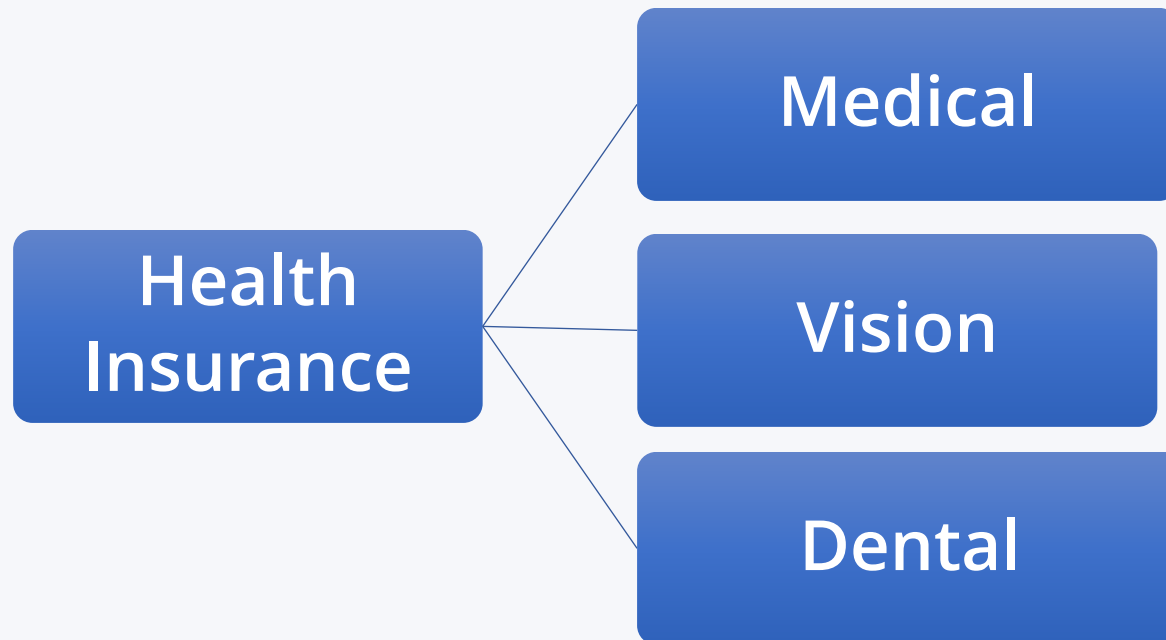
Pricing	Reserving
<ul style="list-style-type: none">• How much more does the firm have to charge drivers who have a DUI conviction?• How much of a discount should the firm give drivers whose cars have more airbags?	<ul style="list-style-type: none">• How much cash does the firm have to keep on-hand to pay for claims?• How much can the firm use to invest for more profit?

HEALTH

Health actuaries help draft rates/premiums to cover cost of care for individuals and work with hospitals, medical device manufacturers, doctors, and pharmacists to make the whole health system work more efficiently.



HEALTH INSURANCE



QUESTIONS HEALTH ACTUARIES MIGHT ANSWER

Pricing & Reserving	Healthcare Policy
<ul style="list-style-type: none">• How much more does the firm have to charge smokers?• How much can the firm lower premiums if it invests the premiums they collect?	<ul style="list-style-type: none">• What happened to premiums when the Affordable Care Act required all people to buy health insurance?<ul style="list-style-type: none">• What happens now that the individual mandate has been repealed?

LIFE

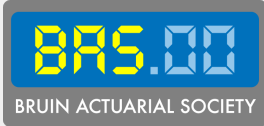
Life actuaries use knowledge of capital markets, mortality, and financial concepts when developing life insurance and annuity policies for individuals and groups to ensure that families are financially secure in the event of the policyholder's death. Modern life insurance actuaries are also involved in the investment of company assets to ensure solvency and strong long-term results.



RETIREMENT

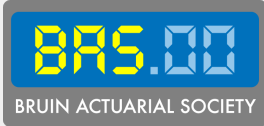
- ❑ Retirement actuaries work on companies' PENSION PLANS and 401(k) BENEFITS to ensure they are attractive, competitive and sustainable
- ❑ Things that Retirement Actuaries consider:
 - ❑ Age
 - ❑ Time until retirement
 - ❑ Mortality risk
 - ❑ Interest rate
 - ❑ Defined benefits versus defined contributions





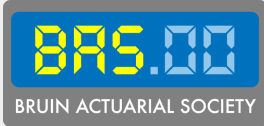
QUESTIONS FOR LIFE & RETIREMENT ACTUARIES

Life	Retirement
<ul style="list-style-type: none">• How can life insurance products be adjusted to ensure attractive returns for policyholders in a low interest rate environment?	<ul style="list-style-type: none">• Can a company's pension program remain solvent when interest rates are low for a long period?



LIFE INSURANCE COMPANIES





RETIREMENT COMPANIES





03.

Consulting

ACTUARIAL CONSULTING

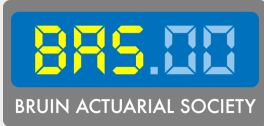
- ❑ Actuarial consultants advise clients on financial and insurance-related decisions for their companies
 - ❑ Must be great communicators
 - ❑ Able to break down actuarial concepts
 - ❑ Carry out benchmarking
 - ❑ Common in Retirement and Health





LINES OF BUSINESS

Lines of Business (LOBs)	Typical Tasks
Life	Clarify and analyze mortality rates
Health	Advise clients on the best healthcare plans for their company
Retirement	Help craft and price the best pension plan for their clients
Property & Casualty (P&C)	Create insurance products and provide strategic advice



INSURANCE VS CONSULTING

Insurance	Consulting
More standard hours	Variable hours
Less travel	More travel
Less direct contact with clients	Work directly with clients often
Interact with various departments so you get a good idea of how the company works	Interact with various firms and clients so you get a better view of the industry as a whole (able to do benchmarking)



CONSULTING COMPANIES



MERCER

MAKE TOMORROW, TODAY



AON



04.

Non-Traditional Actuarial Roles

NON-TRADITIONAL ACTUARIAL ROLES

- ❑ There are various risks and ways to maximize efficiency in every industry. While actuaries are most found in insurance companies, there are also actuaries in:
 - ❑ Accounting/Auditing
 - ❑ Government
 - ❑ Banking/Finance
 - ❑ Sports
 - ❑ Meteorology
 - ❑ Private corporations
 - ❑ Teaching
 - ❑ And many more!



SPECIALIST INSURANCE

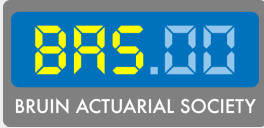
- ❑ There's insurance for practically everything. For example, Lloyd's of London has insured:
 - ❑ Bruce Springsteen's voice
 - ❑ David Beckham's legs
 - ❑ Egon Ronay's taste buds
 - ❑ Alien abduction insurance for ~30000 policyholders

If you haven't heard yet, Taylor Swift's legs are reportedly insured for \$40,000,000. (FORTY MILLION DOLLARS!) Whether this is true or not, the singer truly has some of the best stems in the business. (Don't forget: She can hold her own on the Victoria's Secret catwalk.) And her mini parade over the past few days is the perfect reminder.



LLOYD'S
LLOYD'S OF LONDON





AND THAT'S A WRAP!

KEY TAKEAWAYS

- ✓ Even if you are an International Student, YOU HAVE OPTIONS and YOU CAN MAKE IT!
- ✓ Take charge of your own future and do your research
- ✓ Maximize the resources that are available to you

ANNOUNCEMENTS

- ✓ Basic Excel Workshop on Tuesday 11/8 in Kinsey Pavilion 1220B



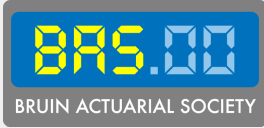
bruinactuaries@gmail.com



www.math.ucla.edu/~actuary/



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Follow us on Instagram to stay updated with our events and workshops

<https://www.instagram.com/bruinactuaries/>

Questions?



ATTENDANCE

