Consider a Career as an Actuary

Presented at UT Dallas by

Jose Torres

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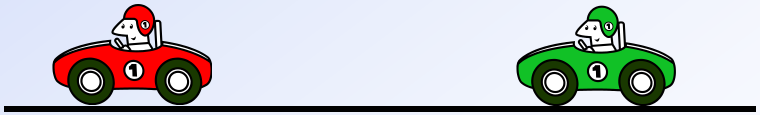
Who am I?

- Education
  - UT Dallas, BS Math, Statistics Major (2009)
  - Founder of Actuarial Student Association (2009)
- NSAI 2009 - 2011
  - Petroleum Analyst
- USAA 2011 – Present
  - Actuarial Analyst

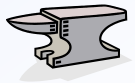
What is Insurance?

Insurance is a promise to pay a certain amount of money if a specific event occurs.

- Someone else's medical bills in the event you cause an automobile accident…



- Damages to your home if it blows away…



- Medical bills for injuries on the job…

What is an Actuary?

- An Actuary is a person who
  - applies mathematical, analytical, and business skills to solve financial and social problems.
  - develops models to estimate the financial impact of future events.
  - puts a price tag on future risks
    - probability of having an auto accident
    - probability of dying before reaching 72 years of age.

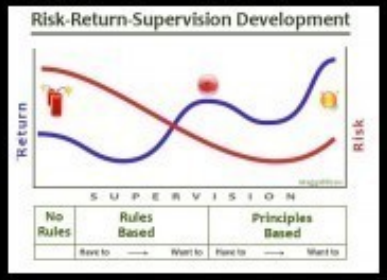
What is an Actuary?

Actuarial Science

What my friends think I do.

What my mom thinks I do.

What society thinks I do.



What my boss thinks I do.

What I think I do.

What I actually do.

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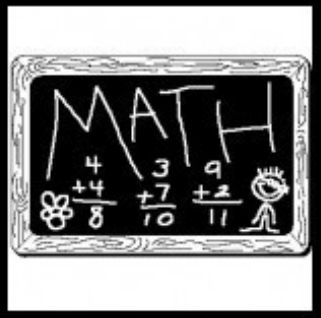
What is an Actuarial Student?

Actuary Student



What other students think I do.

What society thinks I do.

What my boss thinks I do.

What my friends think I do.

What I think I do.

What I actually do.

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What's the probability?

Tire blowout at high speed

What's the cost?

4 injured, 1 serious, 0 deaths

What do I need to be an Actuary?

Essential Characteristics

Mathematical ability

Analytical ability

Communication skills

Typical Backgrounds

Mathematics/Statistics

Business/Finance

Economics

Computer Science

Resume Items

Actuarial Exams

Internships

2012 Best Jobs

- Software Engineer
- Actuary
- Human Resources Manager
- Dental Hygienist
- Financial Planner

Based on 6 Criteria: Income, Outlook, Security, Stress, Environment, and Physical Demands

2012 Worst Jobs

- Lumberjack
- Dairy Farmer
- Enlisted Military
- Oil Rig Worker
- Newspaper Reporter

Based on 6 Criteria: Income, Outlook, Security, Stress, Environment, and Physical Demands

Where do Actuaries work?

- Insurance Industry
  - P&C: Property and Casualty
  - Life and Annuities
- Employee Benefit Industry
  - Pensions
  - Health
  - Social Security
- Financial Industry
  - Banks, investing, risk management

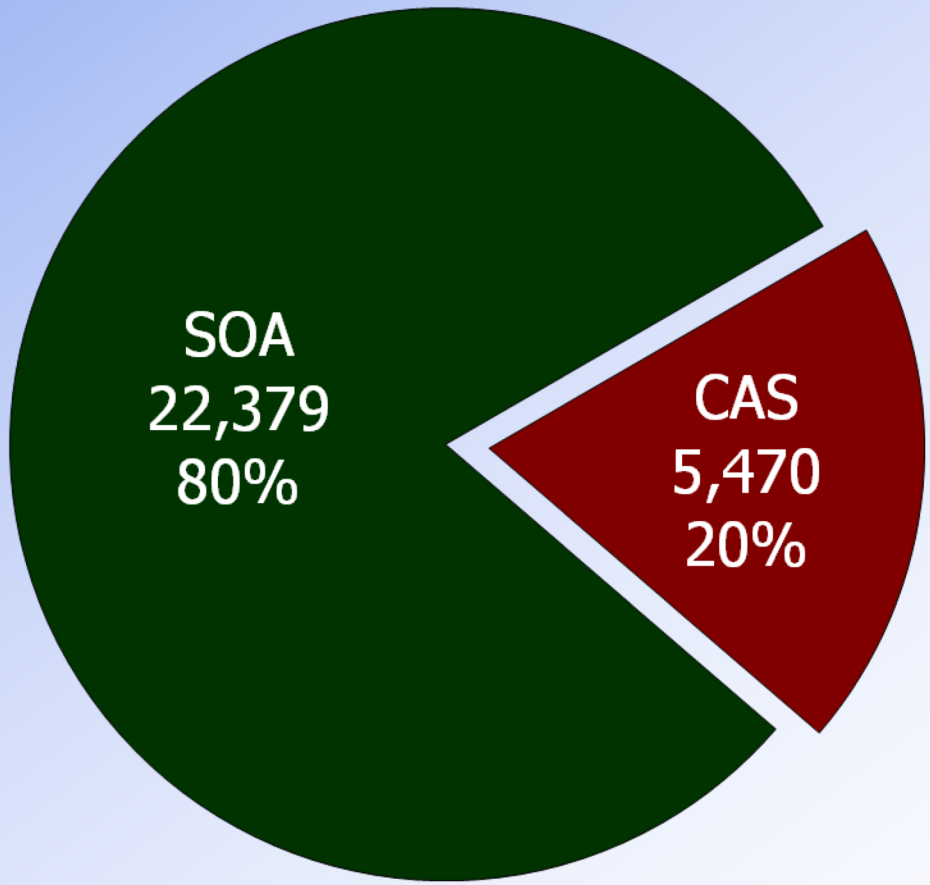
Society of Actuaries

Geographic Region	% of Membership
U.S. Northeast	24
U.S. Midwest	21
U.S. South	16
U.S. West	9
Canada	18
Outside U.S. and Canada	12

Casualty Actuarial Society

Geographic Region	% of Membership
U.S. Northeast	38
U.S. Midwest	25
U.S. South	13
U.S. West	10
Canada	8
Outside U.S. and Canada	6

Types of Actuaries: SOA versus CAS

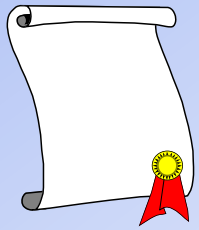


SOA: Society of Actuaries
CAS: Casualty Actuarial Society
Fellows & Associates as of November 2011

What do Actuaries do?

- Pricing Casualty Analysts set prices for assigned states and lines of business.
- Life Actuaries get involved in a myriad of activities for life insurance pricing and valuations of insurance products.
- Loss Reserving Analysts set liabilities for anticipated costs of claims.

How do I become an Actuary?



- Passing a set of exams given by the Casualty Actuarial Society.
- Offered in Spring (April-May) & Fall (Oct-Nov) (Some exams offered more often)

CAS Areas of Study: Preliminary Exams

P/1	Probability (3 hrs)
FM/2	Financial Mathematics (Theory of Interest) (3 hrs)
MFE/3F	Financial Economics (3 hrs)
3L	Life Contingencies & Statistics (2.5 hrs)
C/4	Construction & Evaluation of Actuarial Models (3.5 hrs)

CAS Areas of Study: Associateship Exams

Internet Courses	Risk Management & Insurance Operations
	Accounting, Coverages, Law, & Regulation
5	Basic Techniques for Ratemaking and Estimating Claims Liabilities (4 hrs)
6	Regulation and Financial Reporting (4 hrs)

ACAS!

CAS Areas of Study: Fellowship Exams

7 Estimation of Policy Liabilities, Insurance Company Evaluation, & ERM (4 hrs)

8 Advanced Ratemaking (4hrs)

9 Financial Risk & Rate of Return (4 hrs)

FCAS!

Validation by Educational Experience (VEE)

- Economics – one semester each of introductory Microeconomics & Macroeconomics
- Corporate Finance – one Finance course with an introductory Corporate Finance course as a prerequisite
- Applied Statistical Methods – Time Series & Regression must be covered in one or two courses

Jointly sponsored by SOA and CAS

Approved VEE Courses for UTD

Applied Statistical Methods	Description
ECON 6306	Applied Econometrics
MAS 6V08	Quantitative Methods for Business Decision Making
STAT 6337 and STAT 6347	Advanced Statistical Methods / Applied Time Series Analysis
STAT 3355 and STAT 4382	Data Analysis for Statisticians and Actuaries / Stochastic Processes
Corporate Finance	
BA 3341	Business Finance
FIN 6301	Financial Management
Economics	
ECO 2301 and ECO 2302	Princicples of Macro / Microeconomics

What to Expect…

- Travel Time through the exams is 8-9 years
- A solid effort for an exam could require from 350-500 hours
- Pass Ratios have been averaging about 45%
- That said…

The rewards are worth it!

What do actuaries earn?

# of Exams	Total Pay
1	$55,000
4	$73,000
7	$93,000
New Fellow	$110,000

* 2010 insurance industry survey.

Advice to Students Who Want to Be Actuaries

- Develop disciplined study habits.
- Take a well-rounded curriculum.
- Sharpen your communication skills.

- Take actuarial exams while in school - the sooner you start, the sooner you will finish.
- Look for opportunities for internships.

In Conclusion, …

- Future is bright for Actuaries!
  - Demand exceeds supply
  - Career is dynamic and offers high rewards for demonstrated progress.

- If you still need more information…

  www.beanactuary.org
  CAS – www.casact.org and
  SOA – www.soa.org
  American Academy of Actuaries – www.actuary.org

Questions? Comments?

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- Actuarial hiring; internships; candidate counseling