

Introduction to Actuarial Science

Derek England

Outline

- What is Actuarial Science?
- What does an Actuary do?
- CAS and SOA
- Actuarial Exams
- How you can prepare at IWU
- Resources

What is Actuarial Science?

- “Actuarial science is the discipline that applies mathematical and statistical methods to assess risk in insurance, finance and other industries and professions” (Wikipedia)
- Blend of math, finance, and economics
- The study of analyzing and dealing with potential risks
- People who study actuarial science are referred to as actuaries

What does an Actuary do?

- Traditionally work in Insurance and Consulting companies
- Several disciplines
 - Life, health, property & casualty, pensions, etc.
- Several roles
 - Reserving, pricing, trend analysis, reporting, etc.
- Earn professional designations through exams
- Sometimes serve in other capacities
- Consistently among highest rated jobs
- Fast growing field

Accrediting Agencies

- Two US accrediting agencies
 - Casualty Actuarial Society
 - Society of Actuaries
- Actuaries typically required to be accredited with one agency
- Each have own exams and disciplines

Casualty Actuarial Society

- Smaller of two agencies
- Property and Casualty Insurance
 - Fire, auto, homeowners, liability, etc.
- ACAS/FCAS designations
 - CERA
- One track
- Considered more involved/challenging

Society of Actuaries

- Larger of two agencies
- Life and Health Insurance
- ASA/FSA designations
 - CERA
- 6 unique tracks
 - CFE, QFI, Individual Life and Annuities, Retirement Benefits, Group and Health, General Insurance
- Considered more straightforward

Actuarial Exams

- Considered some of the most difficult exams in the world
- 100 study hours per exam hour
- Pass rates ~40%
- Each cover different topic
- Taken while in college and while working
- Company sponsored study programs
- Average of two passed exams by graduation

Actuarial Exams

- Preliminary exams
 - P/1, FM/2, MFE/3F, C/4
- Upper level exams
- Most exams 3-5 hours
- Can be taken in any order
- Offered every 2-6 months
- Prelims multiple choice, upper level written
- Scored 1-10, 6 is a pass
- \$200-\$1000+ each attempt

How Do I Get Started?

- IWU does not have any formal actuarial program
- Good background of Math, Finance, Economics
- VEE Credits
 - Economics (ECON 100 or 4/5 on AP Macro&Micro)
 - Corporate Finance (FIS 303)
 - Applied Statistical Methods (MATH 303)
- Recommend:
 - Above classes
 - MATH 324, 325
 - FIS 200, 304, 307,309, 408

How Do I Get Started?

- Pass at least P/1 and FM/2 at IWU
 - Math 324&325 prepare for P/1
 - FIS 303&309 provide some background for FM/2
- Be involved on campus
 - Leadership positions in RSO
 - Finance Society, PME, etc.
- Participate in at least 1 internship
 - Actuarial preferred; any insurance/finance good

Studying For Actuarial Exams

- Allow ~4 months to learn material
- ~1 month of practice exams
 - Review answers
- Comprehensive packages
 - Coaching Actuaries, The Infinite Actuary, etc.
- Manuals
 - ASM, Actex, etc.
- Practice Exams
 - ADAPT, back of manual exams, etc.
- Don't get discouraged!

Resources

- Be an Actuary
 - beanactuary.org
- Actuarial Outpost
 - actuarialoutpost.com