2016 CAS Annual Meeting University of Illinois Actuarial Program Overview

Runhuan Feng, PhD, FSA, CERA, Interim Director of Actuarial Science Program
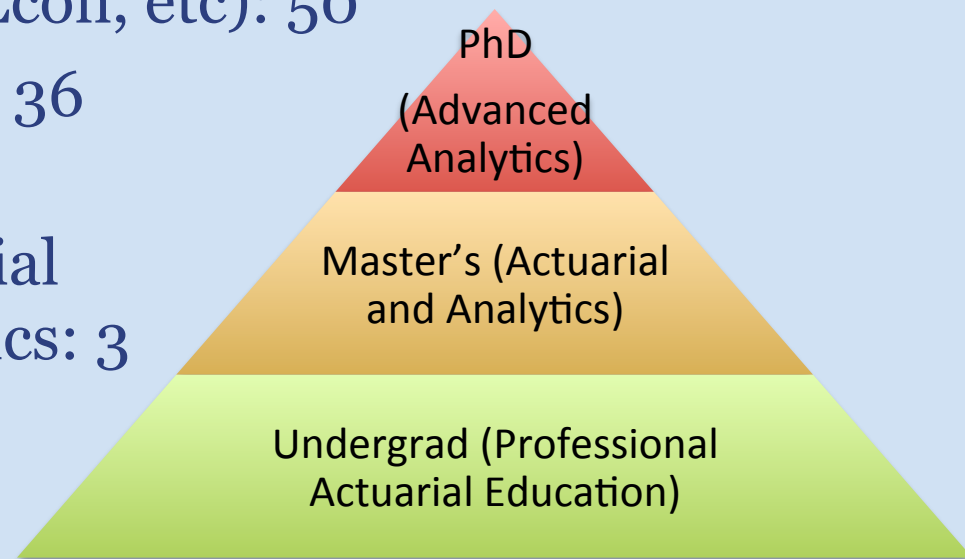University of Illinois at Urbana-Champaign

Strengths

- Under Dr. Richard Gorvett's leadership over the past decade, our program became one of the largest actuarial programs in the nation with strong ties to property and casualty industry.

- Over 2,600 alumni since the establishment in 1960's.

Growing enrollment (as of Fall 2016)

- A vertically integrated education and research program
- BS in Actuarial Science: 343
  - Actuarial Science only majors: 293
  - Double majors (CS, Econ, etc): 50
- MS in Actuarial Science: 36
- PhD in Mathematics Concentration in Actuarial Science and Risk Analytics: 3

PhD (Advanced Analytics)

Master's (Actuarial and Analytics)

Undergrad (Professional Actuarial Education)

Innovative and highly-regarded program

- CAS University Award
- SOA Center of Actuarial Excellence
- Integrate undergrad education with research experience
  - An *Undergraduate Research Program in Risk and Actuarial Science*.

Metrics for Undergrad Research Program

Metric	First year	Second year
Creation of Undergrad Research Website	✔	
Faculty involved	4	4
Student participation	31	51
Projects undertaken	10	11
Summary papers	7	9
Posters	0	2
Case studies	0	2
Introduction of research seminar	✔	
Actuarial Capstone Course	✔	
Equity-linked insurance course		✔

Innovative and highly-regarded program

- The Actuarial Science Club cultivates student leaders through student-led events.

  - Career Fair, company presentations and alumni round tables.

  - Upperclassmen actively educate the incoming students on the major and the profession

  - Organize the Spring alumni banquet and many community building networking and social events

- Interdisciplinary research seminar series
  Mathematical Finance, Risk and Uncertainty Seminar

P&C curriculum

- At least five Econ or Fin courses to give students a wide perspective for the consulting, insurance and financial service industries.

- Cover at least 80% of materials for Exams 1, 2, 3F and 4. Expanding coverage of Exam S.

- P&C knowledge enhancement courses
  - *Casualty Actuarial Mathematics*
  - *Property and Casualty Insurance*
  - *Managing Financial Risk for Insurers*

- Utilize industry case studies in class-room teaching.

Connections to P&C industry

- Over 15 P&C companies had a presence on campus either recruit students or present to students or both. (RLI, CNA, State Farm, Oliver Wyman, Allstate among others)
- State Farm Research Development Center hires approximately 18 of our students each semester to participate in summer and school year internships.

A quote from a current U of I student:

"ten of the sixteen interns this summer signed up to take the same class together, a foundations of data science class. Our experience at the RDC led us to believe that data science will be a more crucial skillset of actuaries in the near future so we decided to all take the class together. It has also been cool to learn about things in the internship before the classroom, and come in with advanced knowledge (aka accident year triangles)"

Ongoing education collaboration

- State Farm case study
- ISE case study
  - Combines traditional mathematical and statistical training with enhanced computational and data processing training.
- AXIS student challenge
  - Fall 2015: to build and test frequency and severity models for class action suits in the United States.

Distinguished Guest Lectures in Actuarial Science

- Fall – Life, Annuity, Pension

- Spring – Property & Casualty, Healthcare
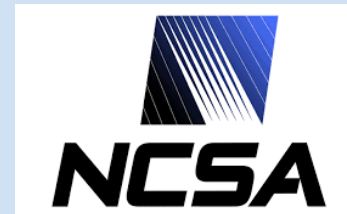
- November 8th

   Andy Ferris, Managing Director of Deloitte Consulting

   - Deploying Applications of Predictive Analytics to Improve Core Business Operations for Life Insurance Companies

Future collaboration opportunities

- Practicum/case studies

- Sponsor student scholarships

- Hire our students as interns

- Utilize our expertise to solve your business problems
  - National Center for Supercomputing Applications
  - iForge – a supercomputer for business partners
  - Illinois is a unique place to utilize latest technology on hardware, software and domain expertise (computer science, data analytics, etc.)

Thank you!

We welcome your innovative ideas for collaboration.