

# RISKY BUSINESS

— News and Notes on the Actuarial Science Program —

Department of Mathematics

FALL 2013

The University of Texas at Austin

## Welcome!

Welcome to another issue of Risky Business, the Official Newsletter of the Actuarial Program at UT Austin. In this issue we will highlight the growth of the program as a whole, the progress of our students, and the direction of the career with the changing exam process.

While the actuarial science program is growing at UT, it remains a very tight-knit and supportive community. This newsletter's contents contain only a small testament to the lengths that fellow students and professionals will go to help aspiring actuaries. The extensive alumni network, the amazing staff and faculty to which UT students have access, and the wonderful community of students old and new is what makes this program and this profession so great.

This semester in particular we have experienced a great increase in expectations from some of the largest actuary recruiting firms and have increased student support to meet them. Some examples of this are mock interviews, and preparation for excel and actuarial exams. With such a vast and experienced background, our program truly gives actuaries the tools they need to succeed and will continue to in the coming semesters!

~ Nicholas Blekas, Editor

## ValuePenguin Featured Student Interview: Cody Carroll

This Fall ValuePenguin sought top actuarial students from universities to discuss the challenges facing actuarial students.

Our very own Cody Carroll, a senior math major also seeking a minor in Japanese, was chosen and answered several questions about these challenges.

### What influenced you to pursue being an actuary?

Originally when I came to The University of Texas at Austin, I had intended on becoming either a high school math teacher or sticking it out in academia until I got a PhD in order to become a professor. While both are respectable (and still possible) career options, I decided to make the switch when I discovered UT's actuarial science program. My favorite parts of math were always probability and statistics, so actuarial science seemed to fit perfectly. Once I'd gotten a few classes under my belt, I knew that I had made the right decision.

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## From the Editors

As always, we greatly appreciate the input of all those who contributed to this issue of *Risky Business*. We are thankful for the combined efforts of the writers, and interviewees. Interest to contribute seems to grow as the program grows and it is great to see the initiative taken by our students.

Now in our second semester as editors, we look to keep you updated on the status and progress of the Actuarial Science Program here at UT and the actuarial profession in the coming semesters!

~ Nicholas Blekas, Nicholas Franzese, Jason Rossiter



Texas Medical Liability Trust is the most respected and preferred provider of medical professional liability coverage and related products in Texas. TMLT is seeking an associate actuary. The primary purpose of this position is to provide assistance in the evaluation of the risk and the profitability associated with medical professional liability insurance. ACAS or near ACAS is desired to help create and build out the actuarial function of TMLT. A large range of tasks are expected where you will be involved in all aspects of the actuarial function. The tasks will range from data scrubbing and analysis to creating presentations for upper management.

We offer a competitive salary and excellent benefits, including paid medical/dental insurance, travel expense reimbursement, pension and 401(K) plans. If you are looking for a challenging position as a team member in a professional environment, send your resume and salary history/requirements to [join-us@tmlt.org](mailto:join-us@tmlt.org).

## How To: Get an Internship With NO Actuarial Exams Passed

A very common belief among actuarial students is that if you have no actuarial exams passed, you have no chance of earning an internship. I cannot tell you how many times I have heard from different students, "I have no exams passed, so I am not going to apply for internships," or "What am I going to do at a career fair with no exams or experience?" However, I am here to tell you that no one is inferior to anyone else. If you want an internship, you will be able to get one, with or without exams.

How do I know you may ask? Because I have done it; I am a junior and I currently have no exams passed. However, I have had an actuarial internship with Lewis & Ellis, Inc., and just acquired my second internship with Blue Cross Blue Shield of Texas. I repeat; I have no actuarial exams passed yet. So, who is anyone to tell you that you are not competitive enough to get an internship? If you do not believe in yourself, why would anyone else? With confidence, you will be able to get the internship you want. Now of course, no one is going to hand you the job. You have to go out, look for it, and work hard to get it. But perseverance is essential. Understand that if one company does not hire you, you keep applying to others, and keep interviewing until you get that internship you want.

Thus, the first thing you have to do is find the opportunities. Searching on the internet or contacting your career service center can be the first step. Also, you cannot forget career fairs. Being able to speak with actual recruiters face to face is an invaluable tool for gaining an internship. Then, after you find the opportunities, apply to every single one. Write a unique cover letter for each and do thorough research over the companies. In the letter, include what you like about the company, and what qualities you have that will satisfy the needs they are looking for in an intern. Emphasize your strengths! Also, make sure to express how much you value the company and how much you will contribute to the company as whole.

Finally, the interview. Introduction is crucial, because according to a study by Frank Bernieri, Ph.D., an associate professor of psychology at Oregon State University, within the first 10 seconds an interviewer sees you; sadly they have already decided whether or not you're right for the job (Sinberg 1). So, you have to dress well. Not only that, smile! A cheerful person with a bright smile is worth more than a \$1,000 suit. Additionally, make direct eye-contact with the interviewer, and keep it strong throughout the interview.

*(Continued on pg. 4)*



<http://oregonstate.edu/career/sites/default/files/job-search.jpg>

## New Course: Generalized Linear Models Now Offered in Spring 2014

### A Brief Summary on Thomas Struppeck

Thomas Struppeck majored in mathematics at Tulane University and went to graduate school at UT and got a PhD in number theory. After graduating, Struppeck moved to Dallas and started studying for his actuarial exams, while working at Republic Insurance. Struppeck also worked as a Chief Actuary at Centre Re. Afterwards he worked as a start-up bond insurer, CIFG on Wall Street. Struppeck retired in 2007 and moved back to Austin to teach at UT. Struppeck had also visited Drake University for a couple of years as a visiting professor, but is now back and happily teaching at UT again.

### What is the class about?

The purpose of this class is to learn how to do predictive modeling to predict what will happen in the future given what has happened in the past years by using generalized linear models. Students will be familiar with linear regression from their other classes (mainly statistics classes). Linear regression is a method for finding the "best" line to explain your data. Sometime however, you know that a line can't be the "best" model. For instance, your line might tell you that the probability that something happens is negative or bigger than one. Since probabilities must be between zero and one, a model that predicts values outside that range can hardly be called "best." In this class we generalize the linear regression model to correct this weakness.

### What can students get out of this class?

Students will learn how to do simple predictive modeling and learn how to use generalized linear models, which can be applied in many areas of actuarial science, especially price modeling. These techniques are used extensively in health and P&C insurance. The sudden rise in popularity of these methods coincided with the widespread availability of inexpensive computation capability. General Linear Models can be used in many areas other than actuarial science such as biology, engineering, pharmaceutical, and biostatistics. Overall, it is a very general tool.

### What should students know from the prerequisites for this course?

The class uses a lot of ideas from earlier math classes such as some geometry from linear algebra, idea of confidence intervals from statistics, and some ideas from probability. Overall, the class is self-contained, but exposure to a statistical package such as R or SAS and a regression class would be helpful.

### What requirements will it meet on actuarial science student degree plan?

The prerequisite for this class will be a grade of C- or better in either M358K or M378K. This course will count as one the four required actuarial sciences specific courses.

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Cody Carroll  
Senior Math Major

## Why should other students consider a focus in Actuarial Science?

The profession of an actuary has a very unique and demanding set of characteristics it requires: you have to be the type of person who doesn't have a problem with math, but you also have to be able to weave some creativity into analytical thinking. You also have to have a hefty supply of persistence—the exam process is killer and it can easily wear someone down and deter them from the profession. Conditioning that you can manage all that, though, actuarial science is great for several

reasons: it carries with it fantastic job security (thanks to the entry barrier of exams), a relatively low-stress environment, and a growing demand in the market as more and more fields recognize the utility and applicability of the work actuaries do.

## What has been your experience with Actuarial Science at your college?

UT's actuarial science program is top notch; for each of the first five preliminary exams, they offer at least one, if not, two courses covering the specific material involved. This is great when you're trying to study for exams and prepare yourself for the actuarial world, since most internships want you to have passed at least one. On top of that, all of the professors here really know their stuff. That's vital when you find yourself facing the difficult material the SOA and CAS love to throw at you.

In addition to the courses and teachers being great resources, UT-Austin also puts an emphasis on students learning from each other. One of my professors actually starts off every semester by making everyone swap phone numbers with someone else in the class so you can rely on each other if one of you misses class, gets stuck on homework, etc.

UT-Austin even budgets resources to provide for academic student jobs—I was a TA for an Interest Theory class last fall, and I graded for an actuarially geared probability course this past Spring. I really lucked out in the sense that I've been able to capitalize on so many of the opportunities that UT provides for its students.

Not only that, but UT has an extensive alumni network—I've known people who studied at UT who went on to work all over the country, ranging from Seattle all the way to Boston. These same people come back to UT career fairs every year to recruit for entry-level jobs, arguably the toughest positions to find.

## Please share an interesting or little-known fact you've learned about the world of actuaries...

Some people consider actuarial work controversial, morbid, or even immoral, particularly areas involving mortality tables. I've heard people say that actuaries bet on people's lives to make money, which obviously is a little melodramatic (not to mention false). Taking away the sensationalism though, I think the issue comes down to the question of whether or not we should use all of the information that's available to us. Even if it does seem a little morbid to assign probability to death or catastrophes, that information is valuable and actually helps people who have to deal with those issues. That's what I would say to someone who morally objects to actuarial work.

## What are the latest developments or trends in Actuarial Sciences?

The development that's probably most relevant to actuarial students is the... drama, for lack of a better word, between the SOA and CAS, the two actuarial societies. As a part of a greater trend of not cooperating with each other, they've decided to quit offering joint exams, which puts a lot of pressure on students to decide their career path before they even really start them. Aside from that though, the horizon for actuaries is broadening: actuarial practices are being extended to nontraditional areas. The rising field of biostatistics comes to mind, for example. Lots of people are starting to realize that there's more to actuarial science than just insurance and pension and these alternative fields provide exciting opportunities.

## What are your future aspirations and career plans?

Right now, my immediate path is to continue taking exams in order to eventually earn full credentials in one of the societies. What's nice, though, is that actuaries often develop soft skills as they go, and because of this, there's lots of flexibility in an actuary's career. I think that moving into a leadership or marketing role and making use of both technical and nontechnical skills sounds really interesting and rewarding, so that's where I hope to be headed eventually. We'll see, though, I guess!

## Anything else you'd like to share?

If you think you're interested in pursuing a career in actuarial science, go for it! It's a tough road, with lots of obstacles and barriers to overcome, but never underestimate the importance of a good support system. I can't be thankful enough for the support given to me by my family, friends, teachers, and university, because at the end of the day, that's what keeps you going.

Oh, and one last thing—Hook 'em horns!!





## Mock Interviews: Hosted by Towers Watson

In fall 2013, alumni from Towers Watson hosted a mock interview for all actuarial students in the Actuarial Science Club. It was a great opportunity to practice the interview skills and also get valuable feedback about students' responses and communication abilities. After the mock interview, alumni and students had a delightful lunch together which built a strong network among them.

From my personal perspective, the mock interview helped me a lot in understanding the professional environment. Since I had few interview experiences before, I learned many key points from this event. First, be well prepared. Before the interview, students should try to come up with several stories about themselves, for example, a leadership story. Second, have a professional conversation with recruiters. Avoid any, "filler," words such as, like, you know and y'all. Third, be confident. Do not be too shy to convey your value to recruiters and make them believe you will become the key contributor to their team.

Xin Lian  
Major: Math  
Exam P/1, Junior

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As far as the actual interview, just show them your personality. They like you on paper which is great; now show them they will like you as a person. Be honest, professional, friendly, and completely yourself. Be able to communicate well and show off your top qualities. However, do not just brag about all of your achievements. Connect them with the internship, and show them they want to hire you because you will fit well with the company's goals and internship responsibilities. Lastly, ask questions. If you do not ask any questions, the interviewer will definitely think you are not interested. So do your homework and think of questions before hand. After the interview, make sure to send them a thank you letter. This will make sure they remember you after the interview, which is key. Ultimately, the main goal is to make the interviewer like you; because people want to hire people they like.

Thus, the above are just a few of the tricks I have learned from the many internship interviews and applications I have done. If I could get an internship as a sophomore with no exams passed, and a second internship as a junior with still no exams passed, there is no reason why anyone should feel they are not good enough for a job, just because they have no actuarial exams passed. Remember, perseverance, and that "Failure is not an option." ~Apollo 13

By: Roxanna Carcamo  
Major: Math  
3.6 GPA, Health insurance internship experience

Sinberg, Laura. "Dress For Interview Success." *Business*. Forbes, 16 Feb 2010. Web. 14 Nov 2013.

<<http://www.forbes.com/2010/02/16/job-interview-fashion-forbes-woman-style-meetings-10-mistakes.html>>.

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Will it help prepare for any of the actuarial exams or any job related experience when working in the insurance or consulting field? How so?

As of today the class does not directly prepare for any specific actuarial exams. This may change in the future. As for job related experience, senior actuaries that Struppeck has spoken to, consistently tell him that they wish that they could find recent college graduates that were familiar with these methods because this is how pricing is done today in most lines of business.

A helpful piece of advice from Struppeck to all of the actuarial students is:

"Get as broad of a background as you can get. The methods that we are using today did not exist twenty years ago (although the ideas were known), and it is very likely that state of the art methods in 2034 (when you will be in mid-career) will have had their genesis in something that you can learn today (but probably isn't on the exams yet)."

By: Judy Lu  
Major: Math  
Exam P/1, Senior

## ASC On Facebook!

As one of our campus relations initiatives, the actuarial program would like to invite you to join our Actuarial Science Facebook page! We hope to use this platform as a way to keep communication strong for students who need advice from those who have been there. Included is a link to the page for any actuarial science students looking to get connecting with others in the program!

<https://www.facebook.com/groups/155626557888005/>

## Fall 2013 Employer Panel

Following the Career Expo put on by the Career Design Services of the College of Natural Sciences, the Actuarial Science Club organized an employer panel for students interested in a career as an actuary. The companies that participated in the employer panel were: AIG, Aon Hewitt, Ernst & Young, Fidelity, Florida Blue, Humana, Liberty Mutual, Mercer, Towers Watson, and USAA. The panel was in a more intimate setting than the Career Expo, where thousands of students milled about the Frank Erwin Center and had to deal with long lines to have brief conversations with recruiters. Pizza, of course, was also provided.

While one use of the panel was to help students get to know individual companies, a large realization of the evening was that all tracks and fields of actuarial work require extremely similar skill sets. The largest differentiation between companies seemed to be location. Actuarial employers are situated from large metropolises and small cities in regions near the mountains or beaches. One has an inordinate amount of choice in area of employment.



As for the work itself, both the consulting and pricing fields stressed the need for communication among clients and coworkers as well as setting clients' expectations. In the actuarial field, workloads can become very large very quickly, with the possibility of work fluctuating seasonally, and it is important for one to set reasonable expectations for oneself. All companies in attendance agreed that, while math was extremely important for an actuary, the human touch aspect of good communication and social skills were the most important part of the job.

The panel of employers also provided ample information for students looking to excel in interviews and at new jobs. Necessity of a specific number of exams for internships and jobs varies with the company in question, as well as if students with less than a junior status can apply for internships, but all the employers are looking for workers who can provide skill with the human touch. Fluency in Excel seems to be one of the most marketable skills for anyone looking to work for an actuarial employer. Once employed, new hires and interns need to keep in mind the level of confidentiality that comes with some of the work as well as the need to claim responsibility for short-comings or errors. A helpful tip that was provided was to provide notes explaining assumptions that were made in coming to a conclusion so superiors checking work can follow the train of thought involved.

Finally, the employers discussed the universal benefits of working as an actuary. All fields within the actuarial profession carry a weighty amount of respect because none of them are easy. Being an actuary requires a unique blend of skills that make one extremely marketable. The field also provides ample challenge for anyone willing to take it on. Because of that, companies are generally very aware of exam stress and willing to work around and assist employees in preparation.

Many of the companies that were represented at the employer panel have returned to UT in order to provide students in the ASC with information pertaining to employment opportunities, general information for those looking for jobs, or for social events. Towers Watson has provided mock interviews for ASC members, and Mercer has hosted a bowling event at the Union Underground.

Jason Rossiter  
Major: Math  
Exam P/1, Editor, Sophomore

# Actuarial Science Club



## Background

The Actuarial Science Club is a student organization which serves to connect actuarial students and give them the tools they need to succeed in networking. Weekly meetings consist of employer presentations, as well as presentations about various topics which are present in the career. Some examples of topics touched on include excel workshops, resume building, and networking advice. By connecting UT's actuaries the actuarial science club helps students prepare for classes, exams and careers. It is truly a valuable asset of the program as a whole.

## Club Activities

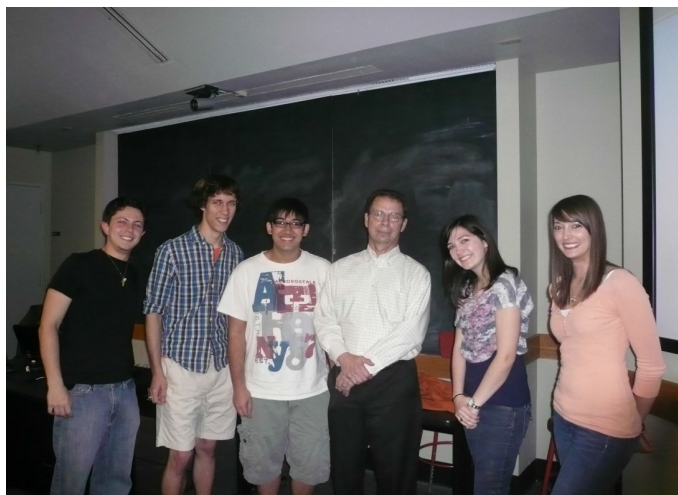
This Fall the club met with several employers to help give members career information and to network during career season. One event which took place this semester was a bowling event with Mercer, held at the Union. Along with being a fun time, events like this give students a laid back setting to talk to people they may end up interviewing with about the path to their goals as actuaries. Some other companies which gave presentations this semester as well include Aon Hewitt and AIG. We are extremely thankful to these employee representatives, who include UT alumni, for their advice and for giving us the tools we need to succeed during career season!

Along with weekly meetings, students are involved in activities around campus as well. Some events frequently participated in are football game watch-parties, involvement in Explore UT, and senior lunch events. This semester in particular will be concluded with a movie night hosted by the club!

## Current Officers

*(Left to Right)*

Nicholas Franzese-Financial Director; Kevin Gregory-President; Alex Shirsat- Administrative Director; Gary Josephson-President of the CAS (Not a club officer); Syd-ney Storey-Vice President and Audrey Turner-Events Coordinator.



## ACF 329 TA Sessions

Year after year the number of Actuarial Science majors grows and that means there are more students who are taking the actuarial exams. As you may know, taking the classes do not fully prepare you for any of them. Each year fellow classmates have taken it upon themselves to give back to the actuarial community and help others prepare for their next exam/class. During the fall semester, TA sessions have been offered for students studying for the FM/2 Exam and Interest Theory class. Special thanks to Jeffrey Shen, Irene Ler Kai Lun, Hang Yang, and Amanda Hu for making these sessions a success.

Joseph Aprile  
Major: Math  
Exams P/1, FM/2 and MLC/3, Senior



## **Actuarial Science Scholarships**

### **Recurring Scholarships**

#### **Ashley and Mark Guajardo Actuarial Scholarship**

Jyotsana Agarwal

#### **Milliman Standards of Excellence Scholarship**

Nicholas Blekas

#### **New Era Life Insurance Scholarship**

Dengjia Liu

#### **Rudd and Wisdom Actuarial Studies Scholarships**

Sneha Arya

Steven Minkus

Brandon Valles

Yue Xu

#### **Troncoso Consulting Group Scholarship**

Mohammad Tahir

#### **USAA Property and Casualty Scholarship**

Zongkang Liu

#### **USAA Life Insurance Scholarship**

Sherry Hu

Jeffrey Shen

Long Wu

### **Endowed Scholarships**

#### **Mark and Pamela Callahan Endowed Scholarship in Actuarial Studies**

Yue Xu

#### **Justin Morris Dial Endowed Scholarship in Actuarial Studies**

Justine Weng

#### **Bruce Fuller Jr. Endowed Scholarship in Actuarial Studies**

Janine Stallings

#### **John S. Rudd Jr. Endowed Scholarship in Actuarial Studies**

Christine Bell

Bethany Simms

#### **Eugene Wisdom Memorial Endowed Scholarship in Actuarial Studies**

Jason Rossiter