

Risky BUSINESS



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What's New in the Actuarial Science Club

Welcome to another issue of Risky Business, the University of Texas at Austin's official actuarial newsletter!

The Actuarial Science Club has been very busy this year, but this time the officers are not the ones planning the club's activities. Events Coordinator Marisa Alonzo and Financial Director Alexander Zhang teamed up to lead the club's first Fundraising Committee, whose membership consisted of general club members aiming to have a more active role in the organization.

Shifting more responsibility to club members was challenging but valuable. In previous years, the six officers handled the planning for club activities, but this year the officer board decided to give members a more active role. Mark Dillemath,

ASC President, described the Fundraising Committee as "the first step to implementing committees within the organization." In addition to creating separate fundraising and event planning committees next year, Dillemath explained that "the Fundraising Committee's success has paved the way to implement long-standing committees such as the Risky Business and Case Competition Committees." Not only does this make room for more member involvement, but it helps members develop the leadership and communication skills they will need in the real world post-college.

Every other Wednesday in the Texas Union, a group of 10-15 ASC members could be found discussing ways to better the club, including fundraising opportunities, social events, and university outreach.

Alonzo led the round table discussions, fostering a welcoming environment where any member could voice their ideas or concerns. Under the supervision of Zhang and Alonzo, the group organized profit shares as well as volunteer events like Longhorn Halloween. After establishing a warm and open culture within the group, Alonzo hopes that next year's committee will stay true to those values and "use the committee as a means of benefitting the club while giving back to members of the university and the community."

When it came time to plan a profit share, sophomore Actuarial Science major Noah Villalobos stepped up to lead the initiative. "We delegated people to go investigate the restaurants and see if profit shares were a possibility," Villalobos explained. "It definitely enhanced

my leadership experiences personally." Committee members handled promotion on social media as well as setting up the profit shares themselves. Overall, the profit shares organized by the fundraising committee were a success, paving the way for more member involvement within ASC in the near future.

However, it wasn't all smooth-sailing. Coordinating that many club members proved challenging for Alonzo at first, but she says everything eventually fell into a rhythm. There was no restriction on committee membership, and while that allowed more club members to be involved, it caused problems with ac-

countability. Although they were lucky to have many dedicated members this year, Alonzo acknowledged that the large, flexible size of the committee could cause problems in the future. Additionally, there were several goals that never came to fruition. For example, the group had planned on tabling for ASC outside Gregory Gym to advertise to interested freshmen and sophomores, but they were not able to organize it in time. Still, the benefits and successes of the committee over the past year have far outweighed its setbacks.

After the overwhelming success of the Fundraising Committee, the 2017-2018 officers are prepared to

expand the program. Noah Villalobos, a former committee member and the newly elected Events Coordinator, is excited to create and lead a committee specifically for event planning. Accountability for committee members was still a significant problem by the end of the semester, but Villalobos plans to address that next semester "by making the committees smaller" to foster a tight-knit environment and a sense of pride within the committee. There is little doubt that increasing member involvement through committees will continue to be a significant initiative within ASC in the coming semesters.

- Samantha Hart

Remember to check out our
"Actuarial Club at UT" group
page on Facebook!

It's a great place to join study groups with other actuarial students, get advice on classes, and share exam preparation tips!

The 2016 CAS Case Competition

During last year's 2016 CAS Case Competition, students took part in researching the field of automobile safety. Participants were given the scenario of being in charge of an actuarial firm named GoStats. The competitors were then asked to analyze what the coverage for a fleet of 950 automobiles would be. In this competition the participants had to think about the ever-changing technology of cars, putting into question the current methods of risk analysis.

In an interview with Justice Washington, a student at The University of Texas, he explained how his group of fellow students worked together to understand what impacts automobiles. He gave insightful information about the process his group executed to be able to complete this challenge and end up winning the competition.

In order to have a solid foundation in understanding the terminology of actuaries, Justice studied the

textbook Actuarial Methods "Basic Ratemaking." Another one of his teammates, Jenny Guo, explained how the information sessions held by actuarial coaches also proved to be pivotal in making certain that their case study was detailed and hit the points that the judges were looking for. Another great part during the process of completing their research was getting together in their group and quizzing each other over actuarial topics. This process greatly increased their understanding of the

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content that they had to research and enabled them to put together a cohesive presentation. In the beginning, the group struggled balancing studying for exams and finding time to research. Throughout the competition they thought of multiple ways in which to increase their efficiency and motivation.

The approach Justice and his group had that really set them apart from their competition was their mindset. They had approached the competition not as something they did on the side while focusing on their school work, but instead they treated it like a full time job. This ensured that they would be clear on their end game and encouraged them to set checkpoints while completing their task.

Another factor in their success was their teamwork. Each person had a clear task assigned and would come together at least once a day to share their findings. Being able to work well with their partners and collaborating was key to their success. Towards the end of the competition, the team met constantly to work on giving the presentation in front of a live audience. This ensured that they would be able to give the information clearly to the judges and make sure that they were not leaving out important information that they had to reach.

This case study provided an invaluable experience for Jenny, Justice, and the rest of their team. The competition not only provided real life experience to its participants,

but it also had a cash prize for the 1st and 2nd place teams! For the first place team there was a \$150 reward and \$50 dollars for the second team. Additionally, the case experience helped Justice land a full time job offer at AIG! This competition was a lengthy endeavor and greatly increased the understanding of the students of the actuarial industry. Thank you to the Casualty Actuarial Society for sponsoring our 2016 Case Competition!

- Jason Park



The 2017 Cigna Case Competition

Our Second On-Campus Actuarial Case Study

First of all, let's congratulate the first place team The 99th Percentile on winning the Spring 2017 Case Study Competition! Their hard work and creativity have earned themselves a valuable lesson in working together like true actuaries and a grand prize of \$150 for each member. Congratulations to HC Solutions for achieving second place, as well as \$50 for each member!

The Actuarial Science Club would like to congratulate all the teams who participated in the competition for doing a fantastic job. Hopefully, everyone learned a valuable lesson working on an actuarial project and gained experience collaborating with their peers. This case study competition wouldn't have happened without every team putting forth their best effort.

As for the judges, the Actuarial

Science Club would like to thank them for taking the time to coming out on the morning of Saturday to listen and judge our participants. They gave constructive criticism on where each team could improve on and importantly how to become better actuaries. Hopefully we would like to see them again and keep in contact with the Actuarial Science Club.

As for what every team had to do, this case competition was about making a product for a hypothetical local ice cream company. Each team had to fully understand the possible health plans and decide which one to utilize for their product. Each team was given the general outline of the case competition and built their own premium calculations using data about the costs of the healthcare plan and the corresponding probabilities. Each team was to make as-

sumptions and find outside information to use for their calculations, such as yearly cost trends and their company's profit goals. Each team was judged on their presentation skills, data calculation, and clarity of work.

In the end, all of the teams had unique solutions and gave the judges a variety of possibilities for the health care plan for the hypothetical ice cream company. The competition went very well, thanks to the organizers and creators for this year's case competition. It wouldn't have happened without the directors, the judges, and the staff for operating the competition smoothly. A big thank you to Cigna for hosting the competition, and congratulations to all the students who participated!

- Bryan Tran



A big thank you to all the participants, judges, and volunteers that helped make our second case study possible!

The 2017 Cigna Case Competition

Our Second On-Campus Actuarial Case Study



1st Place Winners: Sergio Rodriguez, Aamir Ali, Sachin Chandiramani, Samantha Hart, Caroline Sandall



2nd Place Winners: Jesse Chan, Hunain Naem, Alec Gorden

Interview with Dr. Patrick Brockett

Director of the Risk Management and Insurance Department



Currently the director of the Risk Management and Insurance department, holding the Gus S. Wortham chair, Dr. Patrick Brockett has established himself as a scholar who defies commonplace boundaries.

A Ph.D. in Mathematics with a concentration in probability and statistics from the University of California Irvine, Dr. Brockett's research has spanned fields such as biostatistics, insurance, accounting, risk management and actuarial science among others. His work has taken him to institutions such as Tulane in New Orleans, his alma matter University of California Irvine, and most recently, where he currently teaches, the University of Texas at Austin.

Starting out as a professor in the Actuarial Science program in the McCombs School of Business, Dr. Brockett progressed to eventually become the Director of the program until its departure to the mathematics department, where it currently resides, leaving the program to stay in the school of business and taking up a position in Risk Management where he has remained. Dr. Brockett currently has a joint appointment in finance, mathematics, and information and risk management.

Beyond his university positions, Dr. Brockett is also the current editor of the North American Actuarial Journal. He is a fellow of the American Statistical Association, the Royal Stats Society, and the International Statistical Institute. I had the privilege of sitting down with Dr. Brockett to gain valuable first hand insight on his research inspiration and methodology, his view on the ever-changing field of Actuarial Science and the challenges it presents, and his advice for those who enter the field. Lastly, I dive into his personal

beliefs of why successful people are like they are.

Anyone who takes part in the world of academia does so beyond their occupational requirements. For

“Research lets me explore what I want to follow and pursue problems as far as I can go.”

Dr. Brockett, this is no exception, immediately providing a clarification that “Doing research is something I do for myself, publishing research is something I do for my job.” When asked what personally motivates his research endeavors, Dr. Brockett cited an innate curiosity which spans many disciplines, and the enjoyment

he receives following these curiosities. “Research lets me explore what I want to follow and pursue problems as far as I can go,” explained Dr. Brockett. “I like to answer why on a lot of things. We see things that seem to be true and the question is are they really true or are they artifacts. And if they are really true why are they true?”

A quintessential example of this mentality that Dr. Brockett maintains throughout his research led to a particularly interesting anecdote in which Dr. Brockett recalled a time when he and a few colleagues investigated and determined through statistical analysis that the greatest predictor of automobile losses was not a person's driving record, age, or sex, but their credit score. Taking this research a step further and asking why this was the case, Dr. Brockett went on to explain that the credit score was a determinant of the risk tendency individuals had, an aspect that dived into the field of biochemistry. “It's tied together with being a sensation seeker and these sensation

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seekers have a different chemical makeup than non-sensation seekers,” explained Dr. Brockett. The willingness by Dr. Brockett to expand into disciplines outside of those directly involved with risk showcases his unwavering drive to demystify the unknown and provide an explanation for any question that arises. However, as with any work, a real-world application must be balanced in addition to curiosity. When asked the genesis of research themes to

seek out and study, Dr. Brockett was quick to recite the words of George Box, a leading statistician of the 20th century, stating that “All models are wrong, some are useful,” adding that the challenge was to create models that are realistic on one hand and applicable enough to solve practical problems on the other. As a result of this philosophy, his research interests stem not only from curiosity but also from the ability to find a practicality and utility for application. This

approach is carried over to his other roles, notably his editorship for the North American Actuarial Journal, mentioning that relevance and application to ever digitalized modern world play a huge role in his assessment of new material.

The actuarial science industry is an ever changing field. The “jobs that you are working in 15 years from now haven’t been invented yet.”

Thank you for sharing your experience and knowledge with us, Dr. Brockett!

Interviewed by Alper Orkun

Welcome to our incoming 2017-2018 Actuarial Science Club officers!



President: Samantha Hart

Vice President: Riddhi Kumar

Financial Director: Trent Dykema

Administrative Director: Paul Cessna

Events Coordinator: Noah Villalobos

Risky Business Liaison: David Willis

Changes to Retirement Benefits



Actuarial science is constantly changing as insurance products come and go. Actuaries don't worry about horse and buggy insurance as much as they used to, but it's likely we are not worrying about self-driving car insurance as much as we should. As the industry changes, the role of the actuary follows suit. Actuarial science is likely on the verge of the field's next great "mass extinction:" the disappearance of the defined benefit/pension plan. Before discussing the implications of such a change, it's important to define exactly what's being lost and what the alternatives are.

A defined benefit (DB) plan, commonly referred to as a defined pension plan, is a type of employer sponsored retirement program. An employer agrees to fund the plan and, in some cases, the employee will also make contributions. While this plan exists for the employee, he or she may not access the benefit until specific events identified in the plan occur: most commonly, a specified retirement age. Upon the employee's retirement, the plan pays out a cash benefit, typically in the form of an annuity over the employee's lifetime. DB plans vary in their benefit paid according to that plan's benefit formula, which depends on numerous factors such as years of employment and an employee's compensation.

DB plans have proven costly for employers over the course of the last 30 years. According to the Office of Retirement and Disability Policy under the Social Security Administration, tax legislation has reduced incentives for employers to offer DB plans. This has been a major factor in the 50% decrease in private sector employees covered by DB plans. But the burden of DB plans doesn't fall squarely on employers. DB plans offer little flexibility and financial independence for employees, whose retirement plans are effectively owned and operated by the company they work for. On the other hand, DB plans are a free pot of gold at the end of the retirement rainbow, as long as one is able to find the end. These trends and other industry changes have given rise to a more personalized, equitable, but perhaps less enticing alternative: the defined contribution (DC) plan.

DC plans differ from DB plans often through their level of employee involvement. With DC plans, employers are no longer on the hook to foot the entire bill for an employee's retirement; in fact, some DC plans are funded solely by employee contributions. Usually, such employee contributions are in the form of pre-tax salary deferrals -- a portion of annual salary -- to an individual savings account for the employee, which then may be matched by the employer. A

401(k) is a popular example of a DC plan .

DC plans, unlike DB plans, put much of the financial burden of retirement on the employee rather than the employer. Even still, when compared to a DB plan, a DC plan offers the employee more financial independence and the potential for higher expected returns on their savings due to a constantly increasing balance. The Office of Retirement and Disability Policy under the Social Security Administration has found that, as DB plans have fallen off as the primary retirement plan used in the private sector, DC plans have almost entirely picked up the slack.

What do these trends mean for up and coming actuarial students? It's likely that, in our futures, retirement benefits will look nothing like it does today. Those interested in entering the retirement benefits field will have to be adaptable and ready to learn new skills. Although the uncertainty may steer potential actuaries away from the field, evaluating risk and making informed decisions about an unclear future are what we do best. But what if that future includes new exams, you ask? Maybe that's an informed reason to be apprehensive about the field after all.

- John Guttman

The Issues Behind Autonomous Vehicles

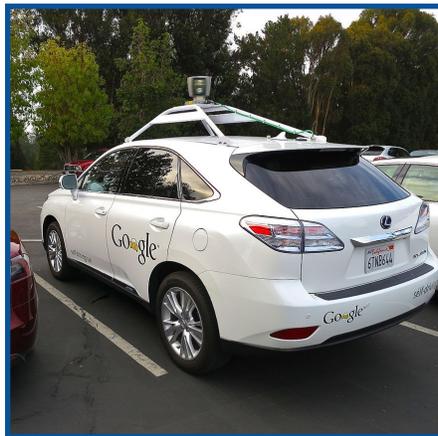
Risk, Liability, and Privacy

The level of autonomy increases in vehicles as technology and time advances. Some of your vehicles may already come equipped with automated features, such as cruise control, lane-centering, and collision avoidance. Eventually, maybe in ten years, cars with full autonomy will become more commonplace on the road. There are undeniably many societal benefits to having autonomous vehicles (AV), such as a reduced number of accidents and the promotion of the economy. However, there are many questions related to risk that need to be answered before AVs become more popular.

Before AVs appear in the market for public use, insurance companies must identify and quantify risk. They must determine what kind of rating variables must be implemented and the rate relativities of the different categories within each variable. The technology involved must also be accurately priced so that when claims are filed, insurance companies compensate claimants fairly and efficiently.

Some of those filed claims may come from accident claims, which raises the question of liability. Should manufacturers or software developer be held liable, no matter the circumstance? In this case, which is known as product liability, there would be a high demand for actuaries and lawyers to prepare and protect the manufacturers and software developers from constant litigations. Alternatively, owner liability would

be less complex and would place the responsibility to the owner of the vehicle when the owner's vehicle is at fault. This would be extremely expensive for the claimant, which would lead them to shop for first-party insurance, the third option. Liability could fall on one of these three options, or be a combination of any of the above.



Even after liability is determined, regulations are tricky on their own. Liability may not be consistent from state to state, because insurance is regulated at the state level. For example, one state may practice product liability, while another may practice first-party liability. What would happen if an accident occurred outside of an AV owner's jurisdiction? Additionally, technology evolves quicker than regulators can keep up with. However, it takes roughly eleven years for the automobile industry to have everyone with the new technology. This transitional period, where there are different genera-

tions of vehicles on the road and every state is at different stages of implementing their own unique regulations will be the most difficult part of the process. This creates a very dynamic environment where it'll be difficult to determine how AVs will be received by and function in the public.

There is also a concern of privacy and cyber security. AVs will produce a huge amount of data, but who will own and be responsible for the data? While predictive analytics help insurance companies determine premiums based on how well a driver drives, there has always been a concern of exactly what kind of information is collected. Additionally, a computer-operated piece of technology such as the AV will be highly susceptible to hacking, where the hacker could potentially collect private data, such as favorite destinations, or even take control of the vehicle. Cyberliability, or insurance in the event of a hacking, could be purchased, but it adds to the cost of owning an AV.

While the AV undeniably has many positive aspects that can improve road safety, there are many complicated aspects that need to be ironed out. This technology is still being developed and tested, but workarounds for the problems mentioned may come about in the near future.

- Angela Fang

Student Questionnaire Results

Eager to see where UT's actuarial society interests and goals lie, the Actuarial Science Club (ASC) decided to send out a questionnaire this semester. The questionnaire was distributed through the weekly Actuarial Science Club Announcement email along with an email from Mark Maxwell to students interested in actuarial science.

The questionnaire was rather relaxed and flexible with respect to the format. I was seeking to obtain as many responses as possible, while not sacrificing important questions or masking non-actuarial science future plans.

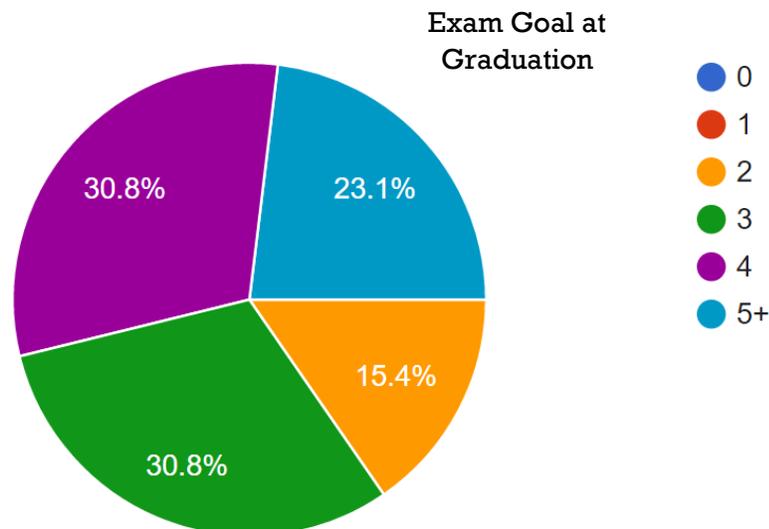
- Paul Cessna

Q: How many tests have you passed?

I wanted to compare year in school with the corresponding number of tests passed. Most of the juniors came in with three tests passed, while the majority of sophomores have one test passed. This significant difference can be attributed to the way the course schedule for actuarial students is lined up. It all starts either freshman year or early sophomore year, when one takes probability. The course schedule has a stacking effect with exam material being spread over two classes. For example, exam MFE material is split between one class called "Introduction to Financial Mathematics for Actuaries" and another being "Financial Mathematics for Actuarial Applications." The difference in number of tests passed is a clear indication as to the amount of material covered between beginning of sophomore year and the end of junior year.

Q: How many tests would you liked to have passed by graduation?

By graduation, most people are seeking to pass three to four exams. If one takes all the actuarial focused classes, one will have covered enough material to pass five or six exams. So, we had multiple people also seeking to pass five or more exams by graduation time. See the diagram below.



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Q: What is your area of interest (life, health, pension/retirement, etc.)?

I decided to let student choose multiple areas, because many students do not know exactly where their interests lie. Juniors and seniors were all interested in a certain area of specialization. Therefore, interests are distributed across the board with the area of "Health" being our largest segment with 30.8%. Life and pension/retirement were tied in number of responses with 23.1%, and property and casualty coming in last with 7.7%. Many of the sophomores and freshmen do not know where their interests lie, so most of the responses were undecided (46.2%).

Q: What are your future plans in five years?

Almost everyone is either continuing to pursue education or jumping into the work environment. 46.2% of the responses are looking to get their FSA or ASA in the next five years. However, in other areas the answers range quite a bit. From pursuing an MBA to working in Portland or Dallas, five years in the future could look a lot different from person to person. One respondent had the lofty goal of "celebrating the five-year anniversary of this survey."

Q: What are your future plans in ten years?

The next ten years differ more than the five-year plans. Most of the goals are centered around the goal of moving up the corporate ladder or achieving a higher salary. For example, multiple people who choose a particular company in the previous five years are intent on staying with that same company with either a higher position or "making more money." Others have different goals such as "trying to lobby congress or states to pass legislation regarding healthcare reform" or pursuing research. As you can see, everyone has their own ambitions in paving their paths for their future. It is very exciting to watch how the plans and interests change from year to year.

What do Recruiters Look For? Demystifying the Recruiting Process

Your palms are sweaty. Your knees are weak and your arms are heavy. You're wondering if dress shoes are supposed to be this uncomfortable or if your collar really has to be so tight. Most of all, you're wondering what's behind those warm, collected smiles on the recruiters sitting across from you. If only you could figure out what that last weird behavioral question was getting at or what it is they're circling on your résumé, maybe you could finally catch a break. Fortunately, recruiters at Cigna and Prin-

icipal Financial Group have provided us some insight. What exactly are some of the common qualifications recruiters seek throughout the recruiting process? How important is one section of the résumé to another?

First and foremost, numbers do matter! Prospective employers look to hire candidates who are academically successful and committed to the actuarial profession. Often times, GPA and exam progress largely influence whether a candidate will even

receive an opportunity to interview. Cigna recruiter Seth Lester says that while it isn't a hard and fast rule, Cigna typically won't consider an applicant with less than a 3.2 GPA. Additionally, while it isn't unheard of, hiring a candidate without any exams passed is rare in the current market. If you happen to meet or surpass these guidelines, it is important to showcase this in order to attract attention from various companies and recruiters. Listing cumulative GPA and passed exams near the top of our résumés, in addition to

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any upcoming exams that you plan to sit for, are all strong suggestions from Seth.

While it isn't a hard and fast rule, Cigna typically won't consider an applicant with less than a 3.2 GPA.

Don't be fooled into thinking you are being gauged on a simple, quantitative algorithm however. Employers are looking for a variety of skills in their actuarial talent, with some of the most commonly mentioned including communication, teamwork, leadership, and technical skills.

Plainly stated, actuaries in today's market don't sit in dark rooms crunching numbers by themselves! Actuary Bill Freese from Principal Financial illustrates this for us when he talks about the sheer number and diversity of people who are involved in the sale and creation of insurance products. Agents, IT professionals, senior business leaders, marketing teams, other actuaries, and regulators must all understand the portions of the product that concern them in order to bring it to fruition. This is why Bill stresses that "communication ability, especially communicating technical concepts in plain language, is critically important." Furthermore, each of these parties has specific objectives in mind, requiring actuaries to collaborate with them in order to ensure the product is sound from every angle. The interview is the first chance you have to showcase your communication skills. Practice ahead of time on being clear and concise so that when you finally interview, your recruiter knows you have what it takes to ne-

gotiate and explain in the future.

Bill Freese stresses that "communication ability, especially communicating technical concepts in plain language, is critically important."

Actuaries also need to be great leaders. Molly Cope Peterson, a recruiter at Principal Financial, tells us that during the hiring process, Principal's objective is to "hire the future leaders of [the] company." These are big, exciting shoes to fill. According to Molly, potential actuaries should be individuals who will one day "build strong partnerships, make sound business decisions, embrace change, get results, act strategically, and inspire others to be at their best." Because leadership is so important to employers, it is important to seek leadership opportunities and reference them in your résumé and interview. Molly says that officer positions in student organizations and leadership in group projects are some of the many great examples of leadership. However, it is important to follow through in your role. Seth Lester of Cigna states that its important candidates can "speak to real, marketable things [they] did in their role." So, take time to analyze your leadership experience before your interview. Did you motivate others, delegate responsibility, or organize a project? Make sure you emphasize these specific actions when discussing your experience.

Finally, actuaries need to have great technical skills. Bill Freese of Principal Financial tells us just how complex some insurance products

can be. For example, some of the life insurance products offered by Principal Financial have rates dependent on multiple ages, risk classes, durations, and more. To add insult to injury, things just get more complicated when you insure two people. Bill goes as far to say that "the number of rates becomes astronomically large and actually impossible." However, actuaries can deliver these complicated products in part because of their excellent technical skills. As a potential candidate, this means that recruiters are shrewdly looking out for individuals who are already developing this high level of technical aptitude. Molly Cope Peterson tells us that Principal is highly interested in a candidate's performance and involvement in classes and activities that promote and teach technical skills. Luckily, there are a host of opportunities for UT students to devel-

Principal Financial is highly interested in a candidate's performance and involvement in classes and activities that promote and teach technical skills.

op these skills. Computer science classes offered as part of the Elements of Computing program are a great resource. Additionally, the Actuarial Science club hosts tutorials in excel to serve as an introduction. The Internet is also a great place to access free resources to develop technical proficiency.

Now that we've perused the not-so-mysterious mind of the recruiter, hopefully you'll relax a little the next time you're face to face with one.

- Riddhi Kumar

An Interview with Justin Park

Thoughts from a Nontraditional Actuarial Student at UT Austin

Most actuarial science students find themselves looking for jobs in insurance or consulting. However, there are many nontraditional actuarial roles that a student can also pursue. Justin Park provides insight on his experience with sales and trading.

Q: Tell me about yourself!

I just finished my third year at UT and will be a senior this upcoming Fall 2017 semester. I am currently studying finance (quantitative finance track), mathematics, and economics. In terms of specific actuarial background, I have taken most of the actuarial specific classes (339D, M339J, M362K, etc.) and have passed four actuarial exams (P, FM, MFE, and C). The past summer, I interned as a quantitative trader intern at Transmarket Group, a proprietary trading firm in Chicago. This upcoming summer, I will be interning as a commodities trader intern for Bank of America Merrill Lynch in Houston.

Q: What initially drew you into actuarial science?

My mom made the recommendation to me when I was looking at colleges. I wanted a nice blend of business/finance and mathematics, so it seemed that the actuarial science field was a great fit for me. In addition to that, many online forums seem to suggest that the stress levels of working at an actuarial firm isn't too high and the effectively hourly pay is higher than most other jobs.

Q: How did you decide that you'd rather pursue sales and trading?

Originally, I had no idea which actuarial field to work in, but I was always interested in working in a role that worked with financial assets. Before knowing about sales and trading, I was hesitant between finding an internship in life insurance or pension insurance, but my decision became more solidified after taking the MFE exam. Personally, learning about option theory, future curves, and currency markets was a lot more fascinating than learning about pension plans or the methods to how insurance companies would calculate insurance premiums.

Q: What knowledge is transferable from your exams and actuarial coursework to sales and trading?

Material from P, FM, and MFE (M362K, ACF329, M339D, and M339W) are all relevant to the knowledge required for a trader. Knowing probability and stochastic calculus are necessary in order to understand how certain derivative assets are priced. Many companies (such as Apple, Microsoft, and Wal-Mart) use derivative assets in order to manage their risk. Traders at investment banks will use probability and derivative pricing theory (like Black-Scholes) or proprietary models in order to price the derivative assets so that they can appropriately sell the derivative assets to the large companies.

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Q: What is your advice to students who are unsure about their actuarial career path?

The best way to know if the actuarial field is a right fit is to find an internship. There are many firms in the Austin area that hire students from UT, so try dropping a resume and emailing a recruiter. If the traditional actuarial route doesn't seem to be fitting, there are a ton of other roles that an actuarial science major might find interesting. However, I would say that an important thing to consider is having an open mind. There are plenty of interesting career fields that have nothing to do with actuarial sciences, so doing some extra due diligence can definitely go a long way.

Q: What do you love about sales and trading?

One word to describe trading would be that the field is that trading is a meritocracy. Getting hired or keeping the job depends on performance and skill. Therefore, the people that I met (full time hires and interns) were incredibly knowledgeable and insightful. I would learn something new every day from working with the people at the firm. Furthermore, there are times when the trading floor can get interesting and exciting. Being able to witness the effects of the Brexit referendum on the global markets was a highlight during my internship experience at Transmarket Group.

Q: What is an example of an interview question related to material we learned in class?

A relatively simple and common interview question for a trading job is pricing an option. Let's say that you get to roll a dice and you get a number of dollars based on what your roll is. If you roll a 1, then you get \$1. If you roll a 6, then you get \$6. However, you are able to purchase an "option" to roll the dice again. How much would you pay to be able to roll the dice again?

Q: Can you tell us what your typical day was at your previous internship?

This was the typical schedule for a trader intern at Transmarket Group:

6:30 AM: Wake up and get ready for work

7:45 AM: Arrive at the office and grab breakfast at the company

8:00 AM: Go through my email, read up on current events through news sites and analyst reports, and mentally prepare myself for the rest of the day

8:30 AM: Work on my assigned project and ask question if needed

12:30 PM: Lunch Break – lunch is catered daily, so no need to leave the office

1:30 PM: Attend class and take notes – learn more about the firm and the strategies that the firm uses

3:00 PM: Either continue working on my assigned project or do homework that is assigned from class

6:00 PM: Pack up and head home

Of course, there were some days in which the schedule would be a bit off. Since I sat at the US Rates desk, if there were any market movers (GDP Announcement, Jobless Claims, FOMC Minutes or Announcement, etc.) I would watch the traders and ask questions. Additionally, sometimes I would be given insight on some of models used on the US Rates desk and how the models would be used to make trades.

Can people contact you if they have questions?

Sure! I check my email pretty much daily, so feel free to email me at: Justin.Park@utexas.edu

Interviewed by Angela Fang

Probability, P

William Biediger, Freshman

Paul Cessna, Sophomore

Rafael Uzzaman, Sophomore

Sreekaavya K., Graduate Student

Financial Mathematics, FM

Rafael Uzzaman, Sophomore

Riddhi Kumar, Junior

Sreekaavya K., Graduate Student

Models for Financial Economics, MFE

Meredith Lutzak, Sophomore

John Guttman, Junior

Sahit Reddy, Junior

Construction and Evaluation of Actuarial Models, C

Justin Park, Junior

Robert Jurgens, Junior

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Elin Kim

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Meredith Lutzak

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Alexander Zhang

James Morris Dial Endowed Scholarship in Actuarial Studies

Samantha Hart

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Mark Dillemath

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John Guttman

Eugene Wisdom Memorial Endowed Scholarship in Actuarial Studies

Robert Jurgens

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Xinyun Zhang

Milliman Standard of Excellence Scholarship

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Bryan Tran

Jason Jun Park

John Guttman

Paul Cessna

Riddhi Kumar

Samantha Hart

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