The UMACtuary

Welcome back to school UMAC!

We have been lucky enough to have had some great contributions to the Newsletter so far this academic year and the amazing articles just keep coming! In this edition of the Newsletter we will be getting insight from a variety of different roles and actuarial fields. This is a preview of what you'll find in this edition of the UMACtuary:

- Updates about this academic semester and about the UMAC Library.
- *Doing Your Masters in Actuarial Science* by Alexa Simpson. Insight into pursuing further education after your Bachelor's in the actuarial field.
- *The Exciting Life of... An Actuary* by Steve Scoles. A look into the different fields actuaries can work in.
- *Learning about Pensions Consulting* by Randi Cuthbert. Where we learn more about pensions consulting and hear some insightful responses to tough questions about the direction of this industry and the actuarial work therein.
- *Internship Profile* by Rossouw Kassier. An opportunity to learn from a current student about the kind of work you can expect in an internship.

Best of luck in your upcoming semester,

Gabrielle Lemire, *Communications Chair*

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UMAC Events and Updates for this Semester

- ***ASNA: A Summary.*** Look out for an article (and pictures) of this year's ASNA. Congratulations to the students who participated, networked and secured interviews with employers at ASNA 2017! And great work Martin Marion on planning a successful trip to ASNA!

- ***Social Events.*** Winter semester is great time to get to know other UMAC students through the variety of social events put on by UMAC such as Bowling and poker night.

- ***UMAC Elections.*** Although it is still a few months away UMAC Elections are up and coming. Are you interested in donating your time to benefit other students? Would you like to learn more about the variety of industries actuaries work in? Do you want to network with employers? Do you have ideas to make UMAC even better? Run for a position on UMAC!

- ***UMAC Library***. We are extending the deadline for accepting donations to the UMAC Library to February 15th, 2. After this date we will randomly select the winner for the prize of one month worth of ADAPT for the exam of your choice! Check your email for submission details (or submit your textbook/Study Manual to a UMAC executive!).

Changes to Academic Schedule because of Strike

End of Registration Period Jan 17, 2017
Late Registration Revision Period Jan 18-31st, 2017
Last Date to Register for Winter term Jan 31, 2017
Voluntary Withdrawal Date for Winter and Fall/Winter classes March 31, 2017
Fee Deadline for Winter term Feb 15th
Winter term Finals period April 22-29, 2017

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Doing Your Masters in Actuarial Science with Alexa Simpson

Tell us a bit about yourself.

I was born an raised in Jamaica. My family owns a crop and livestock farm in the south west portion of the island. I left for college in St. Paul, Minnesota in 2009 where I pursued a Bachelor of Arts (Economics and Applied Mathematics Major, Computer Science Minor). I graduated and worked as an Analyst in a Medical Devices company before coming to Manitoba to complete an MSc. in Actuarial Mathematics.

Why did you choose to pursue further studies beyond your undergraduate in Actuarial Science?

I knew I wanted to be an actuary since grade 11. However, my undergraduate college did not offer an Actuarial Science major. In my last year of college I became very interested in Agricultural Economics and Food Security so I pursued further education in Actuarial Mathematics with a focus on Agricultural Risk. Between college and the Masters, I wrote exams P/1 and FM/2.

What kind of course work and research was required for your Masters?

The MSc at the University of Manitoba was mainly research based (only 6 required course credit hours...the other courses you take are usually in support of your thesis) and my focus was Agricultural Risk specifically Weather-Based Index Insurance in Ontario.

What did you like most about your research?

I truly appreciated the opportunity have my work actually considered by the government to improve food security in the country. That was the first time that I was able to see application of mathematical/statistical theory have an impact in real life.

How is the Masters program at the University of Manitoba similar or different from other Actuarial Masters Programs?

The MSc. Program at the U of M is quite different from what you'd expect from any other University. The typical Masters in Actuarial Math is course based, focusing on the professional exam materials. While there are definitely opportunities to take exam focused courses at the U of M, there is a requirement to complete and defend a thesis research paper. This provides every Actuarial Math graduate with a skill set that is sought after in any workplace (the ability to research a topic/problem to the extent that you understand it well and can successfully present ways to improve/solve it).

The Exciting Life of ... an Actuary
By Steve Scoles

At only 11 years of age, Steve has already had an 18 year career in the life insurance business and has taught at the U of M for a few years.

Hey everyone, Gabrielle asked me to write an article for the Newsletter that was useful for students. So I thought I would write about the types of work actuaries do.

This can be a tough question to answer – partly because what actuaries do is a bit complicated (it involves the intersection of business, math, stats, and long-term financial risks). But also partly because actuaries do a lot of different things. So here is my overview of what types of work actuaries do.

The first distinction to make is between insurance and pensions. Pensions are weird*, so let's move on to insurance. Insurance has lots of different types – life, health, and property & casualty insurance. P&C insurance is weird*, so let's move on to the other types of insurance.

In life insurance, there is the traditional work of figuring out how much the insurance company should charge the customer. Then you have to figure out how much money the company needs to hold to be able to pay on that life insurance when it's needed. Less known is the process where every applicant is reviewed by the insurance company to make sure the company is taking undue risk. This is called the underwriting process. Actuaries are involved in setting the parameters by which applicant will be accepted for insurance. For example, looking at what medical or family history factors have an impact on the people's future lifespans. Also, occasionally, an application is made for a very large amount of insurance (imagine Sidney Crosby, or perhaps my favorite musician, Justin Bieber, needing life insurance). Actuaries may be involved in reviewing the risks on these large amounts of insurance.

Going back to figuring out what price to charge life insurance customers or what level of reserves the company should hold, often actuaries are involved in the programming of these calculations. Sometimes actuaries are dong the actual calculations and sometimes they work with computer programmers to assist in the programming. Another common option today is where actuaries use software that has already been programmed to do the calculations, but actuaries are involved in setting up the assumptions and life insurance product designs so the software does the rest of the work.

On this note, programming skills can be very, very useful for actuaries – taking a couple of programming course in university will always be an asset, even if you don't up directly programming in your actuarial career.

In health insurance, there are a lot of similar things as covered in life insurance, but there are a couple of things that play a much bigger factor. First, health insurance typically has to integrate with government run health coverage. Government health insurance coverage can vary a lot between provinces in Canada and between states in the US. So actuaries are often involved in the in figuring out the implications of government health insurance changes. Imagine the impact of the introduction of the Affordable Care Act (aka "Obamacare") in the US. Many actuaries at many insurance companies spent many hours implementing the changes of that legislation.

Another factor in health insurance that is offered to employers to provide to their employees is offering ways to control the costs of that insurance. Employers want to provide good health insurance to get good employees, but they don't want it to be too expensive. Actuaries may be involved in designing and testing health promotion campaigns or perhaps in designing analytical programs that can detect which claims might involve fraud.

In large insurance companies, there are actuaries needed in several other areas – financial reporting, dealing with various regulations on the insurance business, figuring out how to invest the company's money and insuring the company has cash flow when it's needed, and figuring out taxes and ways to reduce those taxes!

Another area in the insurance world that actuarial students may not be familiar with, but contains lots of interesting opportunities is in the marketing and sales of insurance. Marketing of insurance often involves dealing with the people who sell insurance – designing the materials the salespeople use to present to clients and also making sure the insurance company offers the right things so clients are getting what they want. Also, I have seen some actuaries actually work directly for insurance salespeople. For example, imagine a salesperson that works with clients that have complex needs such as people with businesses that have unusual tax or inheritance situations. These salespeople value having an experienced actuary working directly for them.

This is just a sample of the types of work that actuaries do and there are always new areas where actuarial skills can be useful. One suggestion that I make to graduating students going into an actuarial career is to be open to trying a few different areas of actuarial work. Until you give a good try to different areas of work, you don't; really know what you can be really good at. Each area places different emphasis on things like organizational, interpersonal, communication, programming, decision-making, sales and leadership skills. For example, I remember an actuarial student saying they thought they could never be good at the marketing side of the business and several years later they were running the marketing business of a large company! Give things a good try, you never know what type of work you will really excel at.

*Pensions and P&C insurance are not really weird. I just don't have much experience with them and feel better about myself if I call them weird.

Steve Scoles is a professor at the University of Manitoba who has taught courses such as ACT 2020—Economic and Financial Applications and ACT 4060—Actuarial Aspects of Investment Practices. Steve has also been an active and supportive part of UMAC in roles such as a judge for the 2016 UMAC Case Competition and contributor to the Newsletter. We are grateful to have him here at the U of M!

Learning about Pensions Consulting with Randi Cuthbert

Company: PBI Actuarial Consultants Ltd.
Specialization: Pensions, Benefits and Investments

Tell us a little about yourself.
My name is Randi and I graduated from the University of Manitoba in 2009. I got a job at PBI Actuarial Consultants Ltd in their Vancouver office which is where I have been for 7 years now. When I was looking for jobs I considered PBI. It is a relatively new company that started in 2008. I also considered Mercer which is larger company with which I could work anywhere in the world. I chose PBI because I could see more holistically how the company works rather than just doing job rotations in a larger company. A small company has also allowed me a lot of flexibility to travel for months at a time.

Tell us a little bit about PBI.
PBI is a pension, benefit and investment consulting firm started in 2008 by three partners one of whom is a University of Manitoba graduate, Tony Williams. PBI branched out of the former Watson Wyatt (now known as Willis Towers Watson). Watson Wyatt used to deal with multi-employer plans but since it was such a small part of their business that posed them extra-legal difficulties they decided to remove that part of their business and let PBI take it over. As a consulting firm dealing with multi-employer pension plans, PBI's clients are primarily unions. These unions represent many employers rather than one large employer. Unions allow small companies to access large scale numbers in the creation of pension plans.

What is the difference between a defined benefit and defined contribution plan?
A defined contribution plan doesn't really need an actuary. It is similar to contributing to your RRSP. Your employer contributes *x* dollars into an account in your name and however the investments progress between when the contributions start and you retire determines how much you will receive in retirement. This offloads the risk of the investment onto the employee.
On the other hand a defined benefit plan doesn't have an account in your name. Rather you accrue a specific benefit that will be payable for the rest of your life. The risk involved in ensuring the investments will be sufficient to provide the benefit for the rest of your life is put on the employer.
A target benefit is a mix of these two types of plans. The employer may not want to take on the full risk of the defined benefit plan. Consider the crash in 2008 in which many investments took a large hit, particularly equities. If an employer chooses a target benefit they might say, we know we have this certain benefit in place, for example 2% of salary per year worked. This gives the employer the chance to modify the benefit design, ie the equation or the contribution amounts. In this way the employer is sharing the risk with the employee.

How might you respond to the question of whether defined pension plans are dying out?
Unions have been around for ages. One of our biggest client's pension plans started in the 1980s and because it's through a union it would be really tough for them to give up the rights to those pension benefits. As well, recently one of the partners of PBI was an expert witness for a railway union that was trying to shift from defined benefit to defined contribution plans. She was asked this question of whether defined benefit plans aren't started up anymore. She was able to say that she only started her company in 2008, and even they started a defined benefit plan for their own employees so obviously they are still being created. One of the advantages of the defined benefit plans is to increase stability for older populations who will know the benefits that they'll receive.

What does your employer look for in an interview (GPA, exams written, job experience, etc)?
I have never been a part of the full interview process. However the parts I have been participated in are to ensure the candidates who already meet our exam and grade requirements can meld with the family feel of the company. We are a small company, we do a lot of activities together and we work together on small teams that shift depending on the projects. We strive to keep a family feel which is largely dependent on the personalities that are there.

What computer programs do you use?
We have a valuation program called Proval and we check our results using Excel. When you begin working you will learn much more Excel than what you already know.

What does a typical day look like?
In consulting this a hard question to answer because it is dependent on the projects and clients we are serving. They have different needs depending on their jurisdictions and plan designs. You get different spikes in workload which can keep things interesting. There is annual or tri-annual work as well as special projects that come through. These allow for a lot of different learning opportunities.

Internship Profile with Rossouw Kassier

Company: Sun Life Financial (Waterloo)
Industry Sector: Life insurance
Department: North American Variable Annuities (NAVA)

Hi my name is Rossouw, I'm in my final year through the Science track. This past winter (2016) was my first internship with Sun Life which was extended to a second term through the summer.

Company: Sun Life Financial

Sun Life Financial is leading financial services company, founded in Canada over 150 years ago and is one of the largest life insurance companies in the world. I work in the Sun Life Waterloo office on the North American Variable Annuities (NAVA) team. It is also referred to as the SegFund team, short for segregated funds. We deal specifically with the Canadian block of business, as the Waterloo location is the headquarters for Canadian block of business. The NAVA team is responsible for monthly and quarterly production work in valuation and reporting.

Rossouw's Projects

The two main projects I worked on were the Lapse experience study and the PathWise conversion project from Atlas, PathWise being software for managing variable annuities. Both these projects were vastly different but both very interesting as they required a lot of different technical skills and allowed for a much more detailed understanding of the production work. One particular area I got to focus on was coding in Python, which I used a lot for the PathWise conversion.

Social Aspects of Work

There were many social aspects to get involved in. I was a member of the Sun Life Social Committee, which afforded me the opportunity to be heavily involved in the golf tournament as well as Passer's Night (Drink Up) for everyone who had passed an exam. There were many other social aspects to be involved in for interns and we even organized a few ourselves amongst the interns such as night out to Phil's, the dirtiest bar and a Waterloo staple. I also enjoyed playing the Sun Life actuarial soccer team Sunny Delight, which was a great way to get to know many of the analysts. Overall Waterloo has a very laid back atmosphere with plenty of restaurants and bars to explore. It's close enough to Toronto to enjoy a Jay's game while enjoying an easier commute.

The internship has been an amazing opportunity to not only know much more about the insurance industry but to apply direct knowledge learnt and school and while on the job. I went in nervous about how little I really knew compared to analysts with years of experience. It's been a great learning experience and every single person has made me feel more than welcome and taken the time to answer any of my questions and help me grow and develop. Sun Life is a company I would definitely recommend to anyone.

Student Survey Questions

1. *How was the experience? Was it related to the courses we take in school? What did you find most challenging on the job? For those interns outside Winnipeg, was it difficult finding your own place?*

It's been an amazing experience. The work wasn't always directly related to anything in school, however a lot of basic actuarial classes material did apply. Finding a place to live was a lot easier than it appeared to be at first. A quick look on Kijiji for example, will give you a good idea.

2. How do you stand out from other candidates considering that the most qualified candidate doesn't always get the position?

What we as students consider the most qualified candidates aren't necessary what recruiters consider to be. Being well rounded and something to differentiate you from everyone else would be the best way to stand out.

3. Where to live? Average cost for out of town places?

In Waterloo you want to be close to the King street office location, however steer clear of anywhere close to Laurier University as the noise will make it hard to study! Cost range on what time of year it is as the summer is much cheaper. It can range anywhere from $500 - $1000 and even cheaper in the summer.

4. How did you stand out once you got an internship?

Work hard and ask the right questions. Always be respectful of people's time and thank them. Networking is always a good idea.

5. What kinds of work environment(s) help you to work and learn the best? What skills were necessary for your job and NOT taught at school? Where can students go to learn these skills?

A positive work environment is always best with people that are willing to help. The most underrated skill not taught to the level needed in school is coding. Whether on your own time or some higher-level computer science classes, coding is a very useful skill to have.

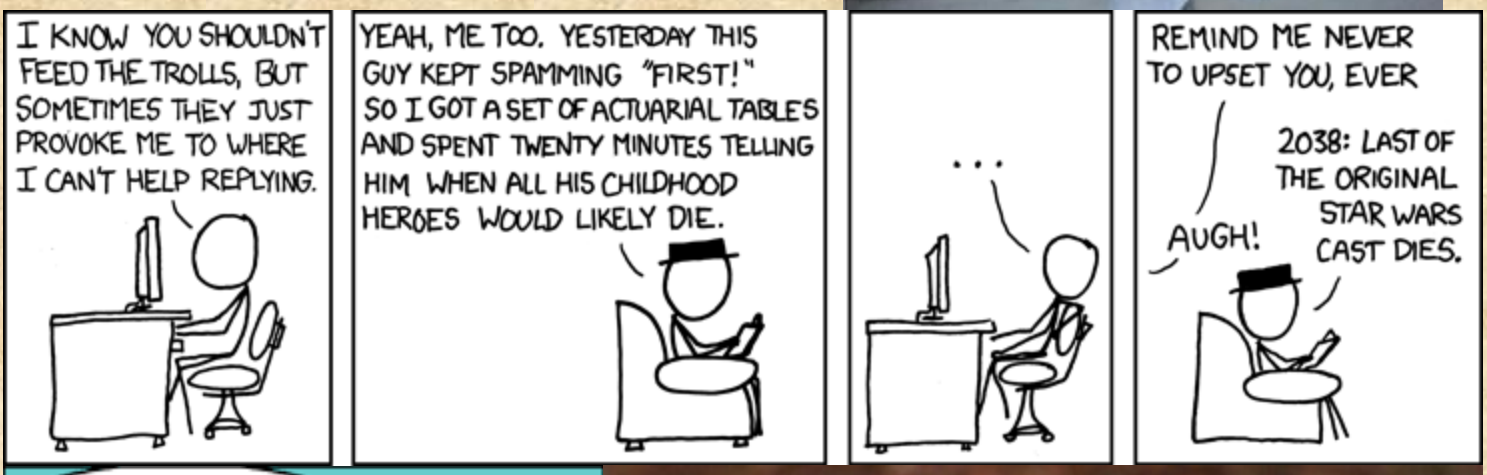
6. How did your tasks and assignments evolve as you became more comfortable in your position? E.g. What did you start off working on vs. the tasks you were completing towards the end of your term.

The tasks became more complex with more accountability and responsibility. In the beginning I would run macros and complete workbooks as opposed to creating new ones that are implemented and being used now.

7. What was a typical day like during your internship? What surprised you the most? What was the interview process like?

A typical day depends on the time of month; the first week or two consist of production work used in reporting and booking reserves. These are time sensitive so these tend to be busier days. Outside of these time days consist or working on projects or experience studies where there is more free rein. The interview process can vary. There is usually a set of questions, mostly behavioral, that different interviewers asked. The most important thing is to prepare for the interviews.

Have a laugh!



To look forward to...

In the next Newsletter we'll hear from those who attened ASNA and see pictures from their trip. We also have some more great articles from industry members and another student profile! Until next time...

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