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THE UNIVERSITY OF MANITOBA ACTUARIAL CLUB NEWSLETTER



University of Manitoba Actuarial Club

123 Drake Centre
(181 Freedman Crescent)
umac-exec@lists.umanitoba.ca

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MESSAGE

From Frederick Sackey, Communications Chair



Hi UMAC! It was a busy October for the club with many events, actuarial recruitment, and a great Fish Dinner evening. This edition of the *Umactuary* features our past events, news from the SOA, and more advice on how to pass actuarial exams.

As in the previous edition, to make the *Umactuary* more user-friendly, hyperlinks have been placed throughout the newsletter to help you find more information about each page.

If you would like to be featured in the next issues by sharing your internship experience, offering study tips, or writing an article, please let us know and we can create a piece!

Sincerely,

Frederick Sackey

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Sept/Oct in Review

Mentorship BBQ—Sept. 25

To start off the year, UMAC had its annual Mentorship BBQ at King's Park. It was an evening of food, sports, and new friendships between mentors and mentees!



Speed Interviews—Sept. 28

During Speed Interviews, students have the opportunity to practice their interview skills and get advice from actuarial recruiters on how to successfully prepare for a real interview. This year, students were joined by members of the Career Development Centre and actuaries from Eckler, Great-West Life, Mercer, Wawanesa, and Manulife.



“What is an Actuary?”—Oct. 2

At “What is an Actuary?”, first and second year students hear from real-world actuaries about the work they perform daily, their chosen career path, and how the role of actuaries has evolved over the past few years. Thank you to our presenters Edith Samuels (Mercer), Clayton Zaluski (Worden Zaluski Consulting Actuaries), Stefan Wall (Wawanesa Life), Martin Marion (Wawanesa Mutual), and Erik Christianson (Wawanesa Mutual)



The 56th Annual Fish Dinner – Oct. 12

Students, faculty members, and industry leaders joined together for this year's Fish Dinner at the Radisson Hotel to celebrate the achievements of many students and the success of the Actuarial program at the U of M. Attendees were treated to an insightful Q&A session by the keynote speaker, Bernard Naumann, President and CEO of Munich Re Canada (Life).



Upcoming UMAC Events

Nov—Jan

Excel Workshop

Nov. 15

UMAC Cup Prep Workshop

Nov. 20

UMAC Cup Case Competition

Nov. 25

Registration now Open! (Deadline: Nov. 17)

ASNA Convention

Jan. 5—7

Stay up to date on UMAC events by
visiting our social media page!



Instagram

@umactuarialclub



Longevity Risk, Beyond the Numbers

Frederick Sackey

For most young adults, planning for retirement is a conversation better suited for their parents. Living in a generation focused on immediate experiences, saving money to spend in 40 years doesn't seem very appealing; especially when sky diving, attending music festivals, and exploring the world becomes harder to achieve. Thankfully, we are all actuaries and will be thinking about life after 65 sooner rather than later because of the life insurance pricing and risk management strategies we must learn.

In recent news, longevity risk has been a topic of conversation for the Society of Actuaries (SOA) and the American Academy of Actuaries (the Academy). This measure represents risk that individuals within a given population live longer on average than expected (Institute and Faculty of Actuaries). In Canada, life expectancy for males and females born in the early to mid-1900s is about 63 and 66 years respectively versus 69 and 76 years for people born 30 years later (Stats Canada). This increase in lifetime means longer retirement periods for the elderly.

As a result, there is greater financial risk for defined benefit (DB) plan sponsors and a higher chance for individuals with defined contribution plans to outlive their retirement savings (Brown).

Thus, the SOA and the Academy conducted studies to find ways to reduce longevity risk and ensure that individuals are able to meet all financial obligations (such as health care costs, living expenses, and medical emergencies) when they retire. Furthermore, the results of this research identified the human and immeasurable aspects of aging which included:

- *Social Engagement*: The types of relationships people have with one another and their opportunities to interact with friends and family.
- *Financial Security*: The level of savings people have and how financially secure they feel.
- *Healthy Living*: Whether individuals make healthy choices in terms of diet and activities to prolong their lives.

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Using focus groups and other qualitative research, the SOA found that when planning for retirement, individuals often make financial decisions based on their feelings and parents' lifetimes instead of more reliable data relevant to a person's lifestyle. Therefore, the SOA and the Academy developed a longevity calculator people can use to determine their life expectancy; based on health status, age, and gender (Rappaport). Although this software does not perfectly measure future lifetime, it still gives individuals a better sense of how much to save and it encourages them to make informed decisions when planning for retirement. The SOA also produced a series of info graphs to present the possibility of living longer than anticipated, the importance for couples to combine their planning timelines, and for people to consider the unquantifiable areas of longevity (Rappaport).

Overall, the research findings show that managing longevity risk involves more than actuarial science as the primary drivers of

human behaviour are humans themselves. As this concept can translate to any area of insurance, a key takeaway from this research is that as future actuaries, we must always reflect on the human side of our calculations to better understand the implications and risks behind insurance products.

For more information on the SOA's research on longevity risk refer to the latest edition of *The Actuary*.

Other News

Canadians lose millions every year from identity theft and online scams

Travellers, you need this kind of insurance if you have elderly parents

Environment commissioner: Federal government is not ready to deal with climate change's effects

Young Gun describes 'balancing act' between broker partners and insurers

Citations

Brown, R. (n.d.). A Deeper Look at Longevity Risk. Retrieved October 09, 2017, from <http://www.acpm.com/ACPM/Archive/The-Observer/Spring-2016/Industry-Insider/ISSUES-ANSWERS/A-deeper-look-at-longevity-risk.aspx>

Institute and Faculty of Actuaries. (2015, December). Longevity Risk, Policy Summary. Retrieved October 9, 2017

Rappaport, A. M. (2017, August 16). What Were They Thinking? Retrieved October 09, 2017, from <http://www.theactuarymagazine.org/what-were-they-thinking>

Statistics Canada. (2012, May 31). Archived - Life expectancy at birth, by sex, by province. Retrieved October 09, 2017, from <http://www.statcan.gc.ca/tables-tableaux/sum-som/101/cst01/health26-eng.htm>

Creating Actuarial Executives

Alexander Loscerbo, Cigna (Bloomfield, Connecticut)

Hi UMAC! My name is Alexander Loscerbo and I am a 4th year Asper student who interned at Cigna this summer. Before my third year I also had the opportunity to work at Great-West Life in the Group Planning and Expense Management Department.

Cigna is a large US and global health insurance company that is currently 70th on the Fortune 500. I worked at their Bloomfield, Connecticut headquarters in the healthcare reserving department. Cigna has a strong commitment to organizational growth, with a company culture that emphasizes both talent development and efficiency.

My department was responsible for setting the reserves for services that have been rendered to clients but have not been paid by Cigna. These reserves are for a shorter duration than those for a life insurance policy with typical full completion occurring well before 18 months. Within shared returns, holding the correct reserve is essential because this



dictates the refund given to each account based on their experience.

Each intern in Cigna's Actuarial Executive Development Program (AEDP) is given one main summer project that has detailed goals and objectives. My task for the summer was to find a better methodology for the allocation of shared returns reserves to each

individual case. Reserves are calculated in aggregate which is a very reliable forecast for the total to be paid amount, but the reallocation on the case level needs to be fair and accurate.

Cigna expects strong technical skills for projects but will spend time and resources to help those skills improve. One notable attribute is the emphasis on the automation of repetitive tasks.

Where Cigna is truly exceptional is the opportunity to network, socialize and develop professionally. A list of top executives is distributed to interns with the purpose of contacting and networking with over FSA lunches.

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CREATING ACTUARIAL EXECUTIVES

The internship was far more demanding and rewarding than I had expected. The work itself is fast paced and there is a real expectation that you will complete a similar caliber of work to that of a full-time associate.

In their Actuarial Executive Development Program, Cigna hires a class of 45 interns, 24 of which are housed in apartments across a golf course from Cigna's Bloomfield headquarters. It is extremely formalized and extensive training is provided as well as activities such as case competitions and speaker series events. There is a three day long all-intern case study where all interns work to solve challenges, present findings, and network professionally.

The required skills to stand out at a company like Cigna are both technical proficiency as well as leadership skills. The ability to take initiative, organize events, and socialize is really valued and Cigna is looking for well-rounded talent to work in their offices for full time.

Hartford is dominated by the insurance industry and the best activities are in neighboring West Hartford. People in the Northeast have a focused and energetic atmosphere which helps make your internship exciting. I cannot recall a single weekend in which there were no activities or trips to neighboring cities planned by the interns. I had a wonderful time touring Rhode Island, Massachusetts, New York, and Maine all within the first 6 weeks.

I think that the largest differentiator between tasks in school and the workplace is the tolerance for ambiguity. In order to be successful in a professional role at a company, one needs to try and problem solve and find a "good" answer not necessarily one that is absolutely technically correct. A solution that is as beneficial as possible given resource constraints is the goal.

What surprised me the most about this internship was the commitment of the company to the development of the intern class. There is extensive feedback, coaching, and support as you become more engaged and active in the work of your department. The company culture at Cigna is very strong, so have an open mind to spend large amounts of time with other interns and the intern committee both during and after work. It was a truly rewarding experience and I am glad to have had such an opportunity to develop with the company. If anyone has any questions about an internship at Cigna, please reach me at loscerba@myumanitoba.ca.

Passing Actuarial Exams



Tips and tricks shared by students on how to pass actuarial exams

Exam P - Melissa Hrichishen

Exam Date: May 2017

◆ Opinion of exam difficulty

Okay, a few surprises but overall not too difficult.

◆ Study Strategy

I started April 1st, approximately 10 hours a week. Moved up to about 6 hours a day 2 weeks before the exam. Duration was approximately 6 weeks, wrote on May 15th. Completed 6 practice exams on Adapt. The Actex was very representative of the questions on the exam. There were few "surprises".

◆ Relevant courses completed before exam

Probability 1 (STAT 2400), slightly helpful. Probability 2 (STAT 3400) is also recommended.

◆ Study manual

Actex 9th Edition (Probability), very helpful

◆ Online study software

Coaching Actuaries (Adapt), very helpful. Earned level reached: 5.8

◆ General Advice

Focus on binomial, geometric, and poisson distributions. Moments will generally not be tested very heavily. There is a strong focus on joint probability distributions and insurance topics.

Exam MFE - Adrian Ferens

Exam Date: July 2017

◆ Opinion of exam difficulty

Okay, a few surprises but overall not too difficult.

◆ Study Strategy

I would get through about two hours of material a day. I think I learned the content for a month straight, and then dove right into practice exams. My strategy involved going through TIA videos at 2x speed to get through the content as quickly as possible without doing any practice questions. I'd then dive right into Adapt exams, with the formula sheet open for the exams. I got horrible marks at the beginning but it gave me a good sense of what the questions are like. I'd keep powering through the exams until I got up to a level 5 (and doing quizzes along the way for any sections that I'm not improving in). Eventually everything clicked, and Adapt was working well. I did roughly 10 exams to prepare for MFE. I highly recommend TIA, and Adapt is a must.

◆ Relevant courses completed before exam

Economic and Financial Applications (ACT 2210), slightly helpful. Financial Derivatives for Actuarial Practice (ACT 3340) is also recommended.

◆ Study manual

Did not use, however ACTEX and ASM are available.

◆ Online study software

TIA and Coaching Actuaries (Adapt), very helpful. Earned level reached: 8 (but only wrote exams lower than 6)

◆ General Advice

MFE is an exam that builds on itself, so everything ties in nicely. A month of learning the material with doing exams on Adapt worked great for me, but might not work for others. I considered doing practice problems between videos to keep things fresh, but in the end I just wanted to dive in to exams asap.

Have you passed an exam recently and would like to share some study tips?

Send an email to fredb.sackey@gmail.com and fill out this short survey .

Exam **MLC**– Nathania Frederica

Exam Date: April 2017

◆ **Opinion of exam difficulty**

Challenging, I really had to think through most questions

◆ **Study Strategy**

I started studying end of February (it was pretty late, not recommended). Studied the material for 6 weeks, 1.5hrs during weekdays, 4hrs during weekends. Total 100 effective hours to study the material. I started review in the last 3 weeks, 3hrs during weekdays, and 5hrs during weekends / study days. Total hours to review 60 effective hours. 12 practice exams in total (from TIA and SOA website). Effective hours means the hours I used to listen to videos, do questions, and check the answers. So if I'm studying 5-8pm, I usually count that as 2hrs effective studying, since 10mins to buy coffee, 15mins washroom break, and 40mins checking my phone is not counted in those hours.

◆ **Relevant courses completed before exam**

Actuarial Models 1 (ACT 3130), not very helpful (only covers part of the exam). Actuarial Models 2 (ACT 3230) is also available.

◆ **Study manual**

Did not use, however ACTEX and ASM are available.

◆ **Online study software**

TIA, 180 day subscription. I also used the SOA's online question bank.

◆ **General Advice**

I took the course 2 years before taking the exam, so I couldn't remember anything. When studying the material, TIA is highly highly highly recommended (for those who need to get a passing mark).

It summarizes the important and most likely to come up questions / concepts. The instructor told us to ignore the material that is unlikely to come up, sometimes gives formula without the lengthy derivation, and really highlights the chapter that often appears on the exam. For someone under time constraint like me, it was exactly what I need; it didn't overwhelm me with too many details. But for some people, the high level explanation with little details makes them uncomfortable, so you might want to use ASM on top of it.

There was one concept (I believe it was percentile premium) that he said is unlikely to come up on exam (thus he explained it only briefly), and it came up in my exam. It's only a small portion of the exam, so I'm not bothered not knowing the answer of that particular question. As I said, TIA will likely help you get a 6-7, not a 10. TIA also give some tips on how to study for MLC, which I follow diligently.

As a crammer, I didn't study much during the first 6 weeks. I found that studying too much material in one day is ineffective, as I'll likely forgot the next day. Always do end of chapter questions, not just listening to video constantly, to make sure you really understand that particular material.

The last 3 weeks are for reviewing. I did one practice exam (4hrs straight), then the next day, I reviewed it, looked at solutions if I did a problem wrong, memorized some formula, and did 5-10 questions about the material I wasn't comfortable with. The next day, I would do another practice exam (4hrs). So, I did a mock exam every other day.

It's important to treat them as real exams (no break, no music, no stopping). Doing a 4hr exam is surprisingly really exhausting, and you need some practice to get used to it. Also, it makes you less nervous if you've pretty much did 12 "exams" before the actual exam. Time is a huge factor in passing this exam. Not getting too caught up in questions is something I needed to practice (especially during writing part; I love to put as many details as I can, but it wasted a lot of my time). TIA gave advice to spend the time in proportion to the score (so 3.5mins per 1 mark or so).

In the writing part, always try to write something in it, even if it's just the formula, or if you can list the variables that will get used.

Exam C - Skylar Nicol

Exam Date: June 2017

◆ Opinion of exam difficulty

Standard, I expected it to be hard but doable.

◆ Study Strategy

I gave myself about 2 months to study, probably starting in early May. To start, I would do probably 5-10 hours a week but the closer the exam got, the more time I spent studying, culminating in probably 40-50 hours in the week leading up to the exam. I did a bunch of the ASM questions to start. If I couldn't figure out an answer quickly, I would read the solution so I didn't waste half an hour on one problem. However, I would make sure I understood the solution before moving on to the next problem. I also did the sample questions available on the SOA website. I did 12 practice exams.

◆ Relevant courses completed before exam

Construction and Evaluation of Actuarial Models (ACT 4630), pretty useful.

◆ Study manual

ASM 18th Edition (Exam C edition), very helpful.

◆ Online study software

Coaching Actuaries/Adapt (180 day guarantee pass subscription). Very helpful. Earned level reached: 10 (however, I didn't take an exam higher than a 6). I also used the SOA's online sample questions.

◆ General Advice

Definitely focus on credibility because it's worth up to a quarter of the exam and this section can get fairly tricky. Another important section is the one with different estimators, MLE, method of moments, and percentile matching. Not as tough as credibility, but also worth up to a quarter of the exam. I would also focus on simulation. It's only worth 5-10% of the exam, but the topic is easy so these are essentially free marks if you know what you're doing. The thing with this exam is that it's a bunch of unrelated stats topics made into an exam. So you're not really building off of what you learned in previous sections. And there's a LOT of material. Don't take this exam lightly. You're also provided with a bunch of formulas.

I printed off the formula booklet and used that to study, but you only get an electronic copy on the exam. I found it much more annoying and tedious finding formulas on the electronic copy than the paper one, so make sure you're familiar with the PDF version. It also doesn't hurt to learn some of the easier formulas so you're not looking at the formula sheet for every question.

Links for Study Material

Online study software/subscriptions:

Coaching Actuaries (Adapt)

The Infinite Actuary (TIA)

Study manuals:

ACTEX Learning

Actuarial Study Manuals (ASM)

