

äSS | Actuarial Students' Society
The University of Melbourne

VISION 2016



THE UNIVERSITY OF
MELBOURNE

The University of Melbourne
Actuarial Students' Society

VISION

2016

Mailing Address
233 Bouverie St,
The University of Melbourne,
Carlton, VIC 3010

Email
contact@melbourneactuary.com

Website
www.melbourneactuary.com

Credits
Design & Editing
Joseph Diao
Patrick He
William Soo

Note From Designer

This year's *Vision* cover design is symbolic of a future that is both a blurred illusion or dream at present but also potentially clear and achievable. What is important is reaching out and grasping that future with your own hands.

Contents

Editor's address	I
President's address	2-3
2016 Committee	4-5
Who We Are	6
2016 Highlights	7-10
Student Experiences	
Transition From High School	11-12
Adulthood 101	12-13
International Student Experience	14-15
Advice for international students	15-17
CAE Student Summit Reflections	18-21
A moment with actuarial student data	22-27
Industry Introductions	
Life insurance	28
General insurance	28
Superannuation	28-29
Data analytics	29
Banking	29
Gold Sponsors	
Quantum (Data analytics, General insurance)	33-35
Willis Towers Watson (Superannuation)	36-38
Educational Institutes	
Actuaries Institute	42-44
Silver Sponsors	
Cause Way (General insurance)	47-48
Finity (General insurance, Data analytics)	49-50
KPMG (General insurance, Data analytics, Life insurance)	51-52
Mercer (Superannuation)	53-54
Russell Investments (Superannuation)	55
Bronze Sponsors	
AIA (Life insurance)	59
am actuaries (General insurance)	60
AMP (Life insurance)	61-62
Cumpston Sarjeant (General insurance, Superannuation)	64
Deloitte (Life insurance, General insurance, Banking, Superannuation)	65
EY (Banking, Data analytics)	66
IAG (General insurance, Data analytics)	67
PwC (General insurance, Banking, Superannuation)	68
Taylor Fry (General insurance, Data analytics)	69-70
More Articles	
ASS-MASS Carnival Games	74
The ASS Committee Experience	75-76
Q&A with a Grad	76-77
A word processing rite of passage	78-80
Reflections of an Internet Detoxer	80-81
Drumming and Polyrythms	82-83

Editor's address

For a while now I have considered *Vision* as a yearbook of sorts; it makes sense to me somewhat: the (graduating) cohort is rather small and have spent lots of time in the same lectures over the years; some of us even have contributions to this very publication! On the other hand, I would certainly describe myself as a sentimentalist...

Welcome to the 2016 edition of *Vision*! *Vision* is the Society's annual flagship publication; originally it was a careers information booklet, but over the years it has evolved to become a little more! Apart from a wealth of information about our sponsors, you can also find a review of the Society's activities over the past year and glimpses of some of your peers' thoughts and (really) terrible humour — who knows, perhaps you may also learn a thing or two!

This year, *Vision* has adopted a slightly new structure. A section has been devoted to student experiences, written by actuarial students coming from a range of backgrounds and at various stages of the degree. Brief overviews on both traditional and non-traditional actuarial industries have kindly been provided as an introduction for younger students who still have no idea what actuaries do (we all went through that phase).

2016 marked the release of Pixar's *Finding Dory*, some 13 years after the release of the original *Finding Nemo*, the events of which many of us can agree were buried somewhere deep in our childhood memories. This year was also the 20th anniversary of the Pokémon franchise, and the gripping fad that was Pokémon Go was certainly a highlight. Just a timely reminder that we all must move on and grow older; indeed, graduation is just around the corner for some of us! However, they say life begins at 40, so perhaps we still actually have a while to go before it starts. Don't let that register with your inner procrastinator though.

On the note of graduation, some of us will soon be concluding our academic careers to begin life in the workforce: a stressful time for sure, but definitely an exciting change after all these years in classrooms, lecture theatres, and at home with lecture recordings!

To the Class of 2016, whether you go on to become Fellows or decide actuarial work isn't for you, hopefully your undergraduate years here have been something worth cherishing. In particular, on behalf of the 2016 committee, we hope you have enjoyed our social activities and professional events over the years, whether it was playing some light-hearted poker, indulging in Japanese refreshments, or taking in the panoramic view of Melbourne from Eureka 89.

To the 2016 committee, you have been a group of immense support this year. I owe a big thank you to all of you for assisting in and organising all of the Society's initiatives and events (and perhaps an apology for all the writing I inflicted on you). It was not without its challenges and difficulties, but overall it certainly has been a year of impressive growth for the Society, and I think the 2017 committee has some big shoes to fill.

Thank you all for being great peers over the last three years. I wish you all the best, wherever you may find yourselves.

Patrick He
Education Officer

President's address

It was during Mid-Year O-Week of my first year when I was first asked the golden question: "So what does your society do?" I remember being stumped, not knowing where to begin my answer as I tried to pick something that stood out from the myriad of benefits we provided to our members. Coming into the Executive team, I realised that despite our continuous growth — with new events, a larger membership base, and more sponsors — our mission remains the same: to facilitate professional development, industry connections, and a strong peer network for our members. As a result, the committee set out on a journey at the beginning of the year to strengthen these three pillars, with the mindset of implementing new ideas along the way while still upholding the high standards left by our predecessors.

Zooming into professional development, our first focus was to elucidate the mystery surrounding the work undertaken by actuaries in the modern financial landscape. We began by rebranding our Careers Luncheons with Gold Sponsors as Professional Development Workshops, wherein our members not only received real insights into the fields of retirement consulting and data analytics but were also made aware of the transferable soft skills that are required to succeed in the industry. To complement these workshops, we held two inaugural events; the first being our Careers Q&A. Here, representatives from our Silver Sponsors formed a diverse panel to answer questions related to their own actuarial journeys and presented their views on the future of the profession. The second, and our most exciting for the year, was the Quantum Analytics Case Competition. Taking the 2015 Excel Skills Workshop one step further, we gave our members the opportunity to hone their expertise in manipulating data and thereafter use their results to solve a real business case. With an unprecedented amount of registrations for the Competition, I'm looking forward to seeing our members apply the skills they've picked up through Professional Development Workshops to construct and present their solutions (yet to occur at the time of writing).

Of course, all the aforementioned events would not have been possible without the kind support from our sponsors, including our new sponsors KPMG and Gen Re. Our sponsors also continued to participate in Actuarial Students' Society networking evenings, which act as a bridge between the actuarial industry and actuarial students. Again, we have seen success with Trivia Night, Poker Night, and Pool Night, with Contact Night on the horizon as our flagship event to end the year on a high note. To further strengthen these connections to the industry, we have continued to inform our members of employment opportunities with our sponsors through our online channels: Facebook, WeChat, Email, and more recently, our website. Our members are hence always in the loop, meaning our sponsors are able to interact with some of the most dedicated and brightest actuarial students.

This year we have also placed equal importance on expanding the peer network between actuarial students. Our new initiative, the Peer Mentoring Program, has connected many first-year students looking for guidance with senior students who were in similar shoes not too long ago. But why cease our network there? This semester also marked the beginning of our relationship with the Monash Actuarial Student Society, instigated through a joint social event, Carnival Games, which you will be able to read about in a later section. The committees of ASS and MASS enjoyed working together to organise this event along with the Quantum Analytics Case Competition, and we hope that this collaborative effort will continue in the future for the benefit of our collective membership and our mutual sponsors.

Nevertheless, we haven't forgotten about the Information Sessions, Pizza Lunches, and publications that have been the core of the University of Melbourne actuarial peer network in the past. We have continued to share, from the point of view of students themselves, detailed knowledge about the actuarial course, internship experiences, and international pathways — in fact, at the time of writing we are in the final stages of releasing a page containing information specifically for international students on our website. We have also put utmost effort into improving the scope and quality of our Subject Review, with reviews on breadths and electives, along with more frequent publications to ensure greater relevance and depth for each individual review.

Upon reflecting on all of the above, it becomes clear that the passion and integrity of the 2016 committee has been instrumental in making our goals a reality. As we reach the end of the road, we sincerely hope this experience has been as rewarding for our members and sponsors as it has been for us. Although there are many achievements to be celebrated, our journey was not without its bumps and falls. We hope the incoming committee can keep this in mind, and we wish them the best of luck in their endeavours for next year.

Cuong Duong
President

2016 Committee



Cuong Duong
President



Catherine Huang
Vice President



Jiani Chen
Secretary



Alexander Nguyen
Treasurer



Patrick He
Education Officer



Garvin Tso
Sponsorship Officer



Bob Zhu
Activities Officer



Mengtong Xia
Honours Year Representative

2016 Committee



David Kwak
Third Year Representative



Truman Tang
Second Year Representative



William Soo
First Year Representative



Angel Yuan
First Year Representative



Jack Zhang
First Year Representative



Yan Liu
Subcommittee Officer



Tishan Paranehewage
Subcommittee Officer



Max Yang
Subcommittee Officer

Who We Are

The Actuarial Students' Society was formed in 1995 with the objective of enhancing the professional and social lives of our members. By forging relationships between employers and students, as well as between students themselves, we endeavour to provide a mix of educational, career-focused and fun experiences. With over three hundred members, the Society caters for all those studying the Actuarial Studies major of the Bachelor of Commerce degree at the University of Melbourne.

Throughout the year the Society provides members with valuable exposure to the industry through our annual Contact Night, 'Student vs. Sponsor' competitions and careers luncheons, in addition to an array of activities that allow them to interact in a social setting. Our members can therefore develop professional skills, learn about career pathways and achieve their long-term goals while having fun with fellow actuaries. Sponsors are given opportunities, not only to interact with some of the brightest minds in their field of study, but to also position themselves at the vanguard of their industry in the minds of our members.

Vision, the annual publication of the Society, has gradually evolved from the 'Vision Career Booklet', to a broader-based publication to reflect the Society's role in fostering not only the professional, but also the social development of its members.



Back row: Angel Yuan, Tishan Paranehewage, Truman Tang, Patrick He, Bob Zhu, Max Yang, William Soo, Jack Zhang

Front row: Alexander Nguyen, Yan Liu, Mengtong Xia, Garvin Tso, Cuong Duong, Jiani Chen, Catherine Huang, David Kwak

2016 Highlights

As always, the Actuarial Students' Society hosts a wide variety of events designated towards bridging the gap between study and professional work in actuarial fields.

2016 marked the beginning of many new and significant events designed to not only build relations between our sponsors and students, but also to foster connections amongst actuarial students as well.

Therefore, 2016 has continued the legacy of hosting informative and insightful events which promise to be enjoyable for both sponsors and students alike.

Welcome Back Pizza Lunch

To mark the beginning of another year, ASS hosted its ever-popular Welcome Back Pizza Lunch. Like always, actuarial students flocked in droves to our event, and it was a great time for bond building and making new friends for the first years.

As usual, committee members were busy both serving pizzas and interacting with the cohort, providing useful information about the major and its benefits.

It was great to see such active engagement and participation from not only first years, but second and third years too, who dropped by just for the chance to socialise (and the free pizza).



Trivia Night

As always, Trivia Night was the first major networking event of the year held by the ASS. However, this year's Trivia Night encountered some serious issues which almost jeopardised the event. Despite these shortcomings, the ASS Executive team was able to pull everything together in an impressive three hours, saving the event entirely and ensuring that sponsors and students were not left disappointed!

Trivia Night took place on the first level of The Spot building, with refreshments coming in the form of sushi and pizza. More than 60 students and sponsors attended the event and were treated to a night of laughter, fun, and enjoyment, with Treasurer Alexander Nguyen's ad hoc Street Fighter trivia question catching everyone by surprise.

As per the tradition of past Trivia Nights, there were donut and push-up contests, both of which were extremely entertaining for the onlookers! Special mention to David Xie, who, completing more than 60 push-ups, was able to secure an easy victory without breaking a sweat.

There was also the bonus quiz of a baby photo set comprising of the baby photos of committee members. Sponsors and students alike were able to mock the committee in trying to deduce whose baby photo fit with whose face.



However, the night ended in a surprising turn of events, as the leading team was pushed into third place due to the difficulty of the General Questions section, where Education Officer Patrick He's mind-boggling true-false question and Third Year Representative David Kwak's Starcraft 2 question pushed an unlikely team into the prime position!

Poker Night

The next major networking event organised by ASS was the annual Poker Night, once again held at the Melbourne Central Lion Hotel. Over 80 students and sponsors arrived at the private room of the Melbourne Central Lion Hotel, where both beginners and poker "aficionados" competed to win the cherished prize of an iPad. With many other prizes up for grabs, sponsors and students alike were keen to try their best!



Starting with multiple poker tables, the game intensified as individuals were slowly ousted from their tables. As the blinds slowly increased in value, there was the lingering sensation that the night was only just beginning...

As always, anyone eliminated from the earlier rounds were able to network and connect with other sponsors and students while the later rounds were in progress.

Ultimately, only one table was left, and we witnessed a sponsor take home the prize of an iPad.

First Year Information Session

In keeping with our traditionally popular informative events, the First Year Information Session allowed first-year students still unsure about the challenging nature of the actuarial profession to gain insight and ask questions about their potential major.

Indeed, information offered included future career pathways and useful subjects alongside general university and subject tips.

Generally speaking, the event is always a hit with the majority of first years, who can ask senior students the questions they had regarding the Actuarial Studies major.

Internship Information Session

Continuing on from last year's success, the Internship Information Session provided an opportunity for a panel of accomplished actuarial students to offer their personal and practical insights into actuarial-related internships.

For second-year students who were actively looking for vacation programs, this was an opportunity for them to learn valuable networking skills and gain helpful tips on how to market themselves in interviews and assessment centres.

Quantium Excel Workshop Gold Sponsor Event

After the success of our first Excel Workshop held last year by Gold Sponsor Quantium, ASS continued to build upon this and grow a strong following of students keen to learn some basic to moderately difficult Excel functions and formulas.

This was plenty of help for the first- and second-year students as they built towards *Introduction to Actuarial Studies* and *Financial Mathematics II*, both of which require building and testing spreadsheet models.

Like all other events, the light refreshments of sushi and soft drinks at the end were a pleasant

Quantium Day in the Life of an Analyst Gold Sponsor Event

This was a very popular and insightful presentation given by our Gold Sponsor Quantium which captivated the attention of many first years interested in data analytics as a future career pathway.



Unlike traditional actuarial roles, this allowed a lot of students to consider the other possibilities available with an Actuarial Studies major, as there are plenty of opportunities available for a cohort with a strong quantitative and analytical background.

Welcome Back Movie Night

As a chance to build on mentor-mentee relationships within the ASS Mentoring Program, the Welcome Back Movie Night was an opportunity at the beginning of Semester 2 to watch great movies and interact with actuarial students of all year levels.

The movies were specifically chosen to be financially or mathematically relevant, and included *The Big Short* and *The Imitation Game*.

Joint ASS-MASS Carnival Games

Being the first time we had run such an event, it was a great time to establish a strong and long-lasting bond with our counterparts at Monash University.

Willis Towers Watson Case Study/Professional Development Gold Sponsor Events

Both very insightful events were presented by Gold Sponsor Willis Towers Watson, offering insight into the superannuation industry in their very unique case study workshop.

The majority of students were given the chance to delve deep into the superannuation industry in a well-explained and simple manner, highlighting some of the more interesting aspects of a very traditional sector.



Willis Towers Watson was graciously able to provide a second event focussed on professional development, offering advice and practical insight into answering tough behavioural questions and interview techniques.

Conclusion

With two of the biggest events of Semester 2 Pool Night and Contact Night in the pipeline, this year has already been an exciting and engaging year for both students and sponsors alike. The ASS committee has been strong and active in their dedication, and without them it would not have been possible to host so many popular and carefully executed events.

Without the hard work and commitment of the committee, the financial and professional support of our sponsors, and of course the continued interest of our members, this year would not have shaped up to be so successful and revolutionary.

On behalf of the committee, we would like to thank everyone who has been involved with planning or participating in our events, especially those who contributed to making sure things ran smoothly this year. With the great successes of this year, it will be a challenge for next year's committee to match, but I believe there is always the opportunity for ASS to continue to grow and prosper!

The Actuarial Students' Society will endeavour to ensure every year is a successful and fun year for all its members, and we are all looking forward to seeing everyone next year!

Bob Zhu
Events Officer

Transition from High School

Fresh off the back of a four-month summer holiday that ended on the first day of semester, I arrived at university jet-lagged. I struggled to wake up at 6 every morning, having been accustomed to waking up at 8 o'clock throughout my schooling life. I missed classes after misreading 24-hour time formats, and I struggled to keep up with the workload. I didn't even understand what actuaries did on a daily basis. Clearly, university was a completely different ball game from high school, and I needed time to acclimatise.

Throughout high school, I heard glowing reports that university life was the dream — freedom, free food, days off, and oodles of fun. All of these are true to an extent, but ultimately, your mileage may vary. Some people prioritise their jobs, working up to three jobs at once; some focus on parties, arriving hungover for a 9am class the next day; others focus on studying and achieving a 90+ WAM. While some may wish to achieve all those things, it is important to be pragmatic and prioritise. Therefore, the first question you should ask yourself is, "What do I want to get out of my time at university?"

The great thing about university is that you have at least six semesters and three years to figure that out. I've gathered from several alumni that the best way to ascertain who you are and what you like is to get out of your "comfort zone". Renowned for being a hermit, I now have a newfound penchant for exploring the city, particularly its eateries. One of the great things about the University of Melbourne is its location. Studying there is a great excuse to be in the city, and a short tram ride will take you to some of the best eats in town, my favourites including Chin Chin and Tipo 00. Unfortunately, these come at a hefty cost, so do be prepared for periods of poverty.

Besides exploring the city, I have been involved with the Actuarial Students' Society as a First Year Representative.

Joining a club and especially being on a committee is a truly rewarding experience. The committee forms part of my support network on campus — we are all willing to help and support each other. ASS is predominantly an academic club, and one of the most crucial things I learnt from the faculty's Future Leaders Forum is that it's important to get out of the commerce "bubble" at times and make friends from all different faculties. Next semester, I hope to join another club that's not "commerce" related. Perhaps I will join the "Cha Dao" (Way of the Tea) club? I'm sure our committee will appreciate a warm cuppa and accompanying theatrics in committee meetings.

ASS runs events almost every few weeks during semester. These events have given me countless opportunities to make new friends. I was one of only a handful of students from my secondary school that went to the University of Melbourne, and it seemed like everyone else already knew each other and had their own social groups. I realised soon enough that introducing myself and shaking hands with new people before lectures was futile — I'd just forget their name by the end of it and resort to calling them "mate". I fared slightly better in tutorials, but nothing beats the camaraderie from attending ASS events. It's a great chance to see familiar faces and meet new friends over the customary ASS catering — pizza and sushi.

This year there were over 200 first-year students enrolled in Actuarial Studies. I find that actuarial students fall into several camps. There are those who are dead set on becoming an actuary, there are those who want to do the major but don't want to be an actuary, and there are those who realise they don't want to torture themselves and look to withdraw from the major. Either way, especially as a first year, be prepared to lose a few friends to other majors at some point.

On the academic side of things, I now know more about the actuarial profession.

Adulthood IOI

It doesn't help that our first exposure to actuarial studies came in Semester 2. However, the subject provides a comprehensive overview of the primary roles of an actuary, and it is a joy to finally understand the origins of the ASS logo.

I have also realised that students are responsible for their own learning at university. Some lecturers provide a great deal of support and reminders about deadlines; however, not every lecturer is so lenient. I've heard countless stories of students who were oblivious to the due dates of online assessments throughout the year and consequently lost marks. Lecturers and their lecturing styles are not always compatible with everyone, and the market for private university tutoring is not nearly as big as the market for VCE tutoring. Therefore, students should make the most of tutorials. This is not a directive to attend consultations and eagerly answer every question in class like Hermione (although you are more than welcome to do so), but merely "participating" will suffice. Silent tutorials are highly awkward affairs, but by discussing ideas with peers, you will hopefully make new friends and undoubtedly learn faster.

My first year at university has certainly been a challenge, but it has been enjoyable nonetheless. I can now say that I am accustomed to university life. I look forward to the next few years of good food, good company, and good challenges.

William Soo
First Year Representative

As a kid, I would picture myself as an adult looking snazzy in business attire and breezing through work. However, I never really stopped to think how I would get to that stage. I suppose that I just imagined I would wake up one morning and suddenly know how to "adult".

But over time, I have discovered that adult work life is not as breezy as I may have imagined it to be. And with every conversation I have had, I have developed a deeper understanding of just what it takes to be an adult. So even though I am not really qualified to give this advice, since I don't know how to "adult" myself yet, here is my not-so-comprehensive and not-so-mutually-exclusive and not-so-scientifically-proven list of tips to prepare yourself for big scary adult work life.

1. Be aware of the business world.

Whilst in most actuarial subjects you can get away with literally just learning what is on the slides, that will never be the case in the work world. I am guilty of being someone who reads up on business news the day before a job interview and knowing just enough to be able to sound like I am actually commercially aware. However, when it came to doing Part II subjects, I realised just how little I actually knew about the way superannuation and insurance industries fundamentally operate. Upon finally doing my proper research, I came to find reading business news a lot easier and even at times enjoyable. Also, when you enter the workforce, it is the expectation that you remain commercially aware of major business events, as they may directly affect your day-to-day work, so if you don't do so already, develop a habit of reading business news — it will make preparing for interviews a lot easier!

2. Be aware of everything else other than business world too.

Being guilty of working too hard is a common crime amongst actuarial students.

By focussing so hard on studies, it often means you have to give up awareness of everything else that happens in the world outside of a textbook. Yet when you enter the workforce and have to see the same colleagues day in day out, talking about the weather and studying can get very boring very quickly. Also, during lunch breaks where everyone else is talking about the latest scandal on *The Bachelor*, it can be very boring sitting there with no understanding of what is happening. So yes, I am sort of advocating the watching of *The Bachelor*. Whilst it will probably decrease your IQ, at least you will have something to talk about and to make yourself feel better about your life after a hard day at work. More generally speaking: watching TV shows, following sports, gaming — don't sacrifice them all for the sake of study and work.

3. Learn to deal with ambiguity.

I am definitely a stereotypical actuary who hates ambiguity and decision making. Choosing what to order at a restaurant is a highly stressful experience. The work world and adult world are full of stressful decisions, some of which may have significant financial implications for clients, and there is never a clear-cut yes or no answer. How to solve this? Well there is no easy fix, but I would say doing things like case competitions definitely helps. With case competitions, there is no clear-cut solution, and there are endless ways of tackling a problem. The more familiar you are with this ambiguity, the more comfortable you will be with it. Also, I think a large part of not wanting to make conclusive decisions is a fear of being wrong, but remember, no one expects you to be right all the time as a graduate. It's all a part of the learning process.

4. Make the most of your freedom in university.

Often the first thing that comes to mind when you picture work life is finally having money to afford things, but that all comes at the cost of being restricted to 20 days of annual leave a year.

Make the most of your four months of holidays across each university year, and enjoy the luxury of skipping lectures when you aren't in the mood, because that freedom won't be there when you start working.

5. Build up a network.

You have probably heard this a million times so I won't elaborate too much, but it is good advice. It is obviously always good to have more people you can call upon for coffee catch-ups.

6. Have a real conversation with Mark Joshi.

Yes, he may seem scary at first, but he possesses a wealth of commercial knowledge that no textbook can teach you. Well, this recommendation is more just "have real conversations with people who have had experiences in the workforce", and Mark Joshi is just a very good example. If Mark Joshi is too daunting to begin with, you can start with your parents. You will quickly find that work life is no smooth sailing. You will face new challenges, have disagreements with others, and feel completely inadequate at times, but the more aware and mentally prepared you are for these situations before you start work, the less traumatic it will be when they arise.

So with less than six months left before I enter the workforce full time, I guess I should start acting upon some of my own advice. But then again, on Sunday mornings when I wake up at midday and neither of my parents are awake, I think to myself, maybe I have already mastered being an adult after all.

Mengtong Xia
Honours Year Representative

International Student Experience

I always thought that studying in a foreign country was a chance to be reborn; just that this time I wasn't a baby but rather a young adult who would be able to take full charge of the direction of my life and reach all the goals that I'd set beforehand. I'd meet new people in a new city and enjoy a different culture. Yet, it didn't take long to realise that my life had become the target of a hostile takeover by a lot of setbacks: culture shocks, homesickness, loneliness, and language/accent barriers. When they hit me all at once, it was hard not to feel like being the only soldier in a vast battlefield, with enemies so giant that it seemed impossible to defeat them.

If you share those feelings with me in any way, don't lose your spirit yet; as the old saying goes: where there is a will there is a way. Being an international student for about four years, I'd love to share with you the manuals of some powerful weapons to win the internal war and thrive in the new chapter of your life.

Knock down the language barrier

The language barrier is probably the most intimidating factor that most international students who have just arrived in Australia will be stressed out about. I still remember when my journey started in New Zealand; food and products displayed on the supermarket shelves were all labelled in English, and some of the descriptions and flavours were not even in my dictionary. The pace in which locals spoke and their accent made me doubt what English on earth I'd learnt before. I tried hard to make every conversation with my classmates flow, but more often than not I failed to get hold of what they were trying to convey. Such experiences were very frustrating, and they happened every day. For friends who are as stressed as I was, here's an ultimate tip that I must share with you: actively listen and learn, then apply whatever you've absorbed.

Try not to be too worried when you can't express yourself clearly or notice others are not understanding you very well (believe me, most people will not judge you based on your command of English). Meanwhile, it's important to listen carefully to how locals express their ideas and try to mimic it in various situations. Moreover, there's no harm in being proactive in creating opportunities to learn and practise your English, which usually also helps you build great friendships and connections. For instance, go to the tutors' and lecturers' consultations for clarification on something you weren't able to follow or message the person sitting next to you in the lecture and ask if he or she wants to discuss the assignment (given the frequency and the level of difficulty of assignments in commerce subjects, this topic should be able to keep you engaged in conversation).

Loneliness — how can I say goodbye?

Loneliness is probably not a foreign feeling for anyone, but it tends to occur more often to international students who are all by themselves in a foreign country. Personally, I find this solution very practical (although it's not something new): find something meaningful or enjoyable to do, and, more importantly, focus on it. The principle is simple: Think about how parents try to stop babies from crying by pointing towards toys (or food). Switch your mind's focus from, "Why on earth did I come here? If I were at home I would be joking with my good old mates," to "I'm not sleeping if I don't get this tutorial problem right", or going online to check out what's happening in the city tomorrow or what volunteer opportunities are available. Other positive feelings like the sense of achievement or expectation will very likely take over the loneliness or negative energy inside.

While we try to avoid letting loneliness take control of university life in this new environment,

Advice for international students

I always thought that studying in a foreign I believe it is also important to spend time with yourself and face your heart. Switch on the table light and let the old tune play; this might lead you to re-examine all your motivations and ambitions before the journey starts. As the saying goes: The very moment of raising beginner's mind is the accomplishment of true awakening itself. Loneliness sometimes is our friend, too.

Last but not least, after all those bits of advice on how to help yourself settle into a brave new world, I believe the most important tip I can give is to embrace yourself for who you are and be proud! One of a handful of insights that deeply stuck in my head after all the workshops, events, and ceremonies I've been to at university is "trust yourself and you will soon find you know more than you give yourself credit for." Keep in mind that you are already a step ahead of a lot of people by walking out of your comfort zone. Thus when feelings of exhaustion flood into your heart, don't forget to give yourself a pat on the shoulder, because you're doing really well, and there's always another brand new day full of possibilities waiting for you.

Yan Liu
Subcommittee Officer

First of all, a disclaimer: I am **not** an international student, but I was born in Hong Kong and lived the first 14 years of my life there, only moving here for the start of Year 9 five years ago. I can relate to the struggles that one would go through coming into this country.

The feeling of helplessness

Hey, you're in a new country. In many ways it's no different to walking into a new classroom filled with strange people. The moment you step through the doors you feel countless eyes on you, sizing you up and judging you. From here you either try to puff out your chest like you're trying to prove a point or you feel a wave of uneasiness wash over you and your eyes scour across the room, trying to find something that resembles some form of familiarity to latch onto. Your choice of action doesn't really change reality though, which is that you don't understand the simple things around you anywhere as much as you want to, and even thinking about it is terrifying.

But that's okay — admitting and accepting this truth is half the battle.

Taking charge of your life again and engaging your surroundings

One of the sights that sadden me the most is when I see an international student isolated in their own social group, speaking their native tongue, and taking no effort in actually trying to assimilate into their new environment. I have engaged with some of these individuals (in their native language), and most often it is the fear of the unknown and the perceived safety and familiarity of staying with their friends that cause this behaviour, which is totally understandable. What I cannot forgive, however, is when they blame it on not having been helped enough in their transition. **You** are in charge of this transition; **you** chose this path; that means you have accepted what comes with it as well, and that means **you** own it.

If other people offer to help you along the way, it is very nice of them, but you cannot rely on charity if you want to do more than just scrape by.

So here we go step-by-step on how I moved through my transition:

1. Admit to yourself that you don't understand how your surroundings work anymore and that you need to learn it all over again starting from the basics.

2. Throw yourself out there.

Yeah, literally like throwing bait out to fish. You will make a lot of mistakes, but if you don't make them and correct them now, you will make them when the consequences are a whole lot more serious. You are here at university — you are here to learn.

And yes, it means talking to strange people in their strange tongue with their strange slangs and doing strange stuff with them outside of class, potentially on a day you would prefer to be lying face down in your bed (evaluating and comparing the theoretical and sample thread count of your bedsheets).

3. Keep trying.

Remember that part when I said you will make a lot of mistakes? Yeah, it takes a lot of time too. I should add that there is one thing great about Australia: that it is always appreciated when someone genuinely tries, even if the scenes are embarrassing.

4. See Step 3.

5. Okay, wow, time flies! It's been a few more years now, and you actually understand the world again. You have made new friends, tried new things, and picked up new hobbies and interests as well as new values.

Not to be a cynic, but you will gather the woes that were your mistakes in your earlier years, put them into a massive pile, and bathe in them, because they are what made you.

That's when you know you're ready.

After all, "Man is defined more by his own mistakes than his achievements" (from a wise man).

Moving beyond that (JOB FINDING!)

Hopefully by now you would have realised that job opportunities for international students here are minimal — no internships and the number of graduate positions in single digits. Once again I have same advice: take charge of your own future!

What you are experiencing is actually the same thing first-year students go through when looking for internships, because internships are for penultimate students only... on paper.

Lists of things that helped me in my first year that can help you:

1. Network

You might realise that a lot of people out there in the industry, actuaries especially, have international backgrounds of some sort. Go to networking events, actively seek them out by cold-calling or cold-emailing, and ask people for introductions if they know anyone. They might be able to give you some advice on breaking into the industry and actively help you in the process.

Bonus: Networking will prove to be invaluable in the long run even without the presence of immediate observable benefits.

But don't take it from me, take it from the following sample conversation between the Young Eager Actuary and Old Wiz Legend:

YEA: Gee Old Wiz L! When should I start networking?

OWL: Yea... you should have started yesterday.

YEA: What if I asked you yesterday?

OWL: Yea well you should have started the day before that.

Note: Actually a conversation overheard at a networking event.

2. Network in your own country as well

Some of you might already have some contacts from your place of origin. Expand them. Use them. See Points 3 and 4 on how it can help you. Once again, it will prove useful in the long run.

3. Consider doing an internship back in your own country

Okay I'll admit it, it's very, very hard to find an internship here in Australia, even if you're local. Being an international student makes it close to impossible. What you can do in the meantime before the mad dash for the very limited graduate positions, however, is improve your own employability and increase your chances when it comes to the real sprint. A stepping stone if you will.

4. Consider moving back to your country for a bit (I didn't do this one)

Don't judge that statement by how it reads. What I mean is that you can use that as a stepping stone. A lot of big corporations have offices all around the world. Once you get into the company you might be able to ask to transfer offices.

5. Be open minded, maybe even try different industries

Remember how I said there are limited positions? You can improve your chances if you're open to trying non-actuarial roles. Right now your priority is to get yourself off the (metaphorical) sinking ship and put your foot through the door; who cares which door it is? You can always switch back to actuarial if you want it that badly (either in the same company or another company). You have made it this far. What's stopping you?

I feel the words *stepping stone* creeping in again.

6. Get that PR (insert personal disclaimer)

PR is like the holy grail of working rights for international students. You might not be able to conveniently time it with your graduation, or you might have to resort to further studies or Point 4, but it's mostly a matter of time.

Research the criteria and how you can meet the requirements, and plan your stay accordingly.

Final words of warning: At some point you might feel like you're beginning to lose yourself, and in your desperate pursuit to climb out of the pit you might lose sense of where you are going. In this situation, consider practising meditation. By that I mean sitting down alone in a quiet place and repeating these questions to yourself and answering them, out loud.

"Who are you?"

"What are you doing here?"

Yes, try new things, embrace the new world around you, but do not forget your roots. After all, "A man's roots define him just as much as his mistakes" (same wise man as before).

At some point you might doubt yourself, and in that doubt I want you to ask yourself whether you think what you're doing is wrong. It doesn't have to be the absolutely most correct thing to do in that situation. As long as it's not wrong, keep doing it, and if you fail, learn from it and try again. You will get there... eventually.

Garvin Tso
Sponsorship Officer

CAE Student Summit Reflections

Hey all! As some of you may know, the Society of Actuaries (SOA), one of the two main governing bodies for actuarial science in the United States, maintains a list of Centers for Actuarial Excellence (CAE), comprising of universities around the world which are recognized for the quality of their actuarial programs. This year, some Australian universities were named on this list for the first time, meaning that we were invited to attend the annual two-day CAE Student Summit, where fellow actuarial students from the US, Canada, and Hong Kong would gather. Catherine and I were fortunate enough to represent the University of Melbourne, and we didn't miss a beat in booking our travel itinerary and packing our bags for Chicago!

Day 1 — Comparisons between Australia and the US

Cuong Duong, President

Before the Summit even began, it wasn't the smoothest ride to the Home of Derivative Securities; arriving to our hotel four hours later than expected due to a flight delay (I trusted you Qantas...), we were deprived of any decent options for food. Fortunately, SOA, probably foreseeing the lack of energy for most participants, ensured that the Day 1 sessions were short and purely informative.

The first presentation revolved around the proposed changes to qualifying as an Associate Actuary through SOA. There was an overwhelming amount of information to absorb regarding the actuarial education system administered by SOA as it stands, but instead of regurgitating what you could probably find on the SOA website, I want to emphasize the key similarities and differences to the system we have here in Australia.

Perhaps the biggest difference lies in the way actuarial students gain qualification for technical knowledge. Although the non-actuarial-specific technical areas (Accounting, Finance, Economics) are not covered at all by SOA and qualification must be gained via University study, all "preliminary" actuarial exams (CTs 1, 3, 4, 5, 6, and 8 equivalent) can only be taken through SOA; there are no exemptions available from completing similar tertiary courses. The path to SOA Associateship ends with courses on methods of actuarial practice, similar to our Part IIs, but these courses, along with some of the preliminary exams, are expected to be taken (or *written* as the Canadians say) whilst working full time.

The big change, however, will be the introduction of a Predictive Analytics course into the path to Associateship. Despite this change lengthening the time it would take to qualify as an Associate, it turns out that employers are more than happy to invest resources in their employees in exchange for the advanced statistical knowledge on offer. We then saw on Day 2 that these skills already play an important part in increasing the efficiency of traditional insurance processes and will become even more necessary as new technologies develop and more data become available. Although it seems that data analytics currently plays a smaller role in the (life and health) insurance industry in Australia compared to the US, this change raises the question of whether (or when) our own curriculum will be altered as well.

Moving away from education and the institution, it was then refreshing to hear about the student club experience. I was impressed by the Actuarial Students National Association, which acted as the representative student body for 13 universities across Canada. Their flagship event, a massive three-day convention with over 600 students and 33 sponsors attending to partake in seminars, interviews and a careers fair, left me to ponder the possibility of a similar event for the Australian actuarial student cohort. Of course, our

relatively small student base leaves a question mark over its feasibility, but in the future, as the industries seeking actuaries expand and the actuarial course becomes more popular, I will eagerly await the unveiling of Australia's own actuarial student convention.

A quick break was in order after this first half of the day, and as we sat back down it was time to hear about the journeys of and gather advice from experienced actuaries. We were extremely fortunate to hear from Jeremy Brown, the incoming President of SOA — a man with over 30 years of experience in life insurance and consulting and who had held executive positions in the past. Labelling himself a "Student for Life", it was clear that his passion lay in education, particularly that of self-education. Interestingly, Jeremy stressed that it was this passionate curiosity, rather than the ability to build a network that is usually emphasised today, that pushed him past his peers to obtain the position of Appointed Actuary at a very young age. Another element of surprise was Jeremy's close encounters with conflicts of interest during his time reporting to the CEO of his company. In my opinion, the fact that these possible unethical acts never came to fruition highlights the professionalism that must be displayed to become an actuary and cements the position of actuaries as some of the most respected people in the financial services sector, in Australia as well as everywhere around the world.

The day ended with a Q&A panel consisting of actuaries entering the middle stage of their careers. What stood out to me immediately were the industries where they worked, as consulting for annuities and health insurance seems to be much more prevalent in the US than in Australia. Reasons for this seem to be linked to the differences in regulation: earlier in the day, we had heard that Health Insurance as a Fellowship specialisation was becoming increasingly popular due to the changes to regulation in the US health industry. The Retirement specialisation on the other hand, had been declining over the past few decades; it is interesting to contrast this to Australia where actuaries working in retirement consulting are finding new projects with the transition of defined benefit funds to defined contribution funds. Nevertheless, wrapping up, the panellists concluded that it would be useful to keep updated in news that would affect the industry you work in. For example, if working in health insurance, one could be following the Zika virus and noting the ways it could spread to different parts of the US.

With a day packed with that much insightful information, a welcome dinner at Chicago's own Ping-Pong Bar (does this even exist in Australia?) was a great way to spend the night. I thoroughly enjoyed meeting other actuarial students from all over the US and Canada and even ran into our fellow Aussies from UNSW and ANU. Even as a group of eight though, we weren't able to (def)eat two "small" Chicago Deep Dish Pizzas. With our eyes tired from following hundreds of ping-pong balls flying in the air and our stomachs filled with cheese, we called it a night and got ready to tackle Day 2.

Day 2

Catherine Huang, Vice President

The second day of the summit began with a communication presentation by Mary Milla, a public speaking coach. Communication capabilities of actuaries have become a worldwide problem. The SOA has apparently noticed the introversion of actuaries and are trying to help us overcome it so that we have the ability to translate our quantitative analysis into understandable language.

Mary was invited to deliver a very practical workshop on the topic of presentation skills. Mary gave us a lot of tips on how to give an engaging, understandable, and persuasive presentation. Preparing for a presentation typically involves the following steps:

Points

Mary used the metaphor of the GPS here to help us come up with the key messages we want to get across in our presentation. Destination is where you want to take your audience; current location is where your audience is; route is your key messages. Your key messages are the three most important points that will take your audience from where they are to your destination. Key messages should be true, short, human, memorable and persuasive.

The introduction and conclusion of a presentation are usually the hardest. Mary suggested that in the introduction, we could get audience's attention by telling a story or offering a jaw-dropping statistic instead of common but lame openings. The conclusion needs to inspire and/or make clear how the audience is supposed to react. Again, avoid common but lame closings.

PowerPoint Slides

- Bullet points and simple phrases are better than paragraphs.
- Do not read off your slides.
- Write the way you talk, not the way you write.
- Slides may look different when they are projected. Make sure your audience can read them.

Practice

It's not just what you say that's important, it's also how you say it. Do take time to practise and bring in your personality so you connect with the audience.

Mary introduced us to the interesting notion of table-read, which is a stage of film, television, and theatre production. Table-read involves a group of actors sitting around a table and reading through the script. Producers and script writers will also be present to detect and solve any casting or script problems. The same thing should be done for presentation rehearsals to ensure that the logic of the presentation flows. Rehearse out loud, and time yourself. Edit your slides if necessary.

Mary also emphasised the importance of body language. Gesture naturally, because there is no need to keep your hands still. Point to the graph on the slide if you need to. Do not pace around the room during slides, but moving to a different part of the stage at transition points is okay.

Q&A

Prepare for possible questions by analysing your audience. Consider their level of understanding of and emotional connection to the topic. Prepare for questions you've been asked before as they are likely to be asked again.

Try to answer the questions with one of your key messages or as directly as you can. It is okay to say that you don't have enough evidence to come to a conclusion about a question.

Conclude the Q&A by restating your points so the presentation ends on your points, not a questioner's.

Relax

Apart from the usual deep-breathing techniques, I learned a very useful hack, and that is "Power Posing". Not only do our minds affect our body language — our body language also affects our minds. When we stretch out our arms and legs and open up our chests, we are making ourselves bigger, and it makes us feel more powerful. This is the beauty of "Power Posing". Do the power pose for two minutes before your presentation or interview to get your testosterone level up so you can really show your true self.



Lastly, practising helps with nerves. When you walk onto the stage feeling prepared, you are less nervous. Know your opening and closing lines and the main points of your presentation, but do not try to memorise them word for word.

Presentation Checklist

- Destination
- Current location
- Route (key messages)
- Proof for my key messages (stories, examples etc.)
- Introduction
- Conclusion
- Prepare slides
- Rehearsal
- Brainstorm audience questions
- Plan how to use key messages in the Q&A
- Relax and do the power pose
- Rock the presentation

After this extremely helpful and insightful session, we were given two hours to prepare for a group presentation on one of the articles we read before. The article was about life expectancy in the US. The article discussed an alarming phenomenon of life expectancy: that differences in life expectancy due to race and educational differences are widening. There is a gap in life expectancy between races. In the US, white males have outlived black males at every age and level of education. The difference in life expectancy due to educational differences is even more significant. From statistics and graphs, the biggest jump happens in the period from 12 years of education to 15-16 years of education which is university education. To close the gap, it is important for the US governments to implement educational enhancements at young, middle, and older ages for people of all races. From the perspective of a life insurance company, our job is to take into account these differences when we are developing our analysis to ensure our models are correct and the company has sufficient reserves.

It gave us a chance to apply all these tips that we learned from Mary when they were still fresh in our minds. We followed exactly what Mary said, ticked all the boxes on the checklist and did the two-minute power pose. And despite my nervousness and shaky voice, we rocked the presentation!

The summit concluded after our presentations. Two days passed in the blink of an eye. The summit was short yet fulfilling. Overall, it was a valuable and unforgettable experience. We are very grateful and fortunate to have attended the 2016 CAE Student Summit.

A moment with actuarial student data

One of the staple questions of each First Year Information Session is "What is the drop-out rate like?" It is well known that the Actuarial Studies course is intense and challenging, and, accordingly, of the students who begin their early tertiary years considering the Actuarial Studies major, a significant proportion does not graduate with one. The major's reputation for this precedes itself, and for many prospective students this is often an issue of at least mild concern even while in high school.

Each year, the Centre for Actuarial Studies publishes an annual report, which, while not targeted towards students, is publicly available online. It acts as a review of the Centre's activities over the year and includes a list of subject prize winners, some of the research papers published during the year, brief discussion on some of the staff's other involvements outside the classroom, and more importantly, a list of student enrolment counts for the actuarial subjects over the year, which is the main data source for this entire piece.

The most recent annual report is for the year 2015, while the oldest available is for the year 2003. This gives a total of over 10 years of student enrolment data to inspect in order to demystify (to an extent) the notorious actuarial "drop-out" rate.

For current students who are perhaps already all too familiar with the drop-out rate, the enrolment data will also be used in conjunction with the exemption lists to perhaps raise (but most likely lower) your confidence of performing above the exemption benchmark for the actuarial exams at the University.

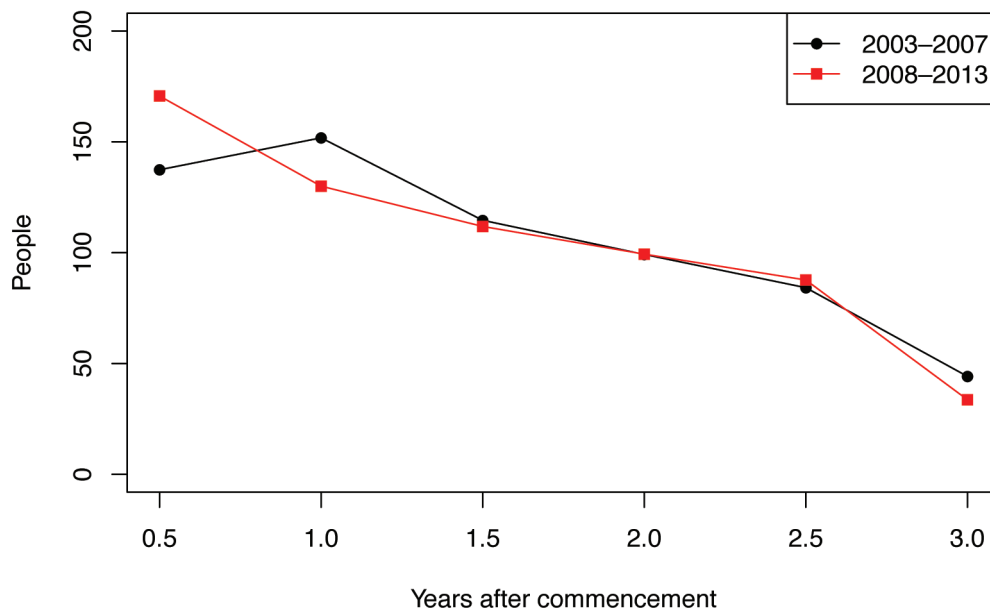
Cohort trends

Disclaimer: As current students will know, there are many reasons for students to change majors away from Actuarial Studies, and while poor grades may be one of them, there are other reasons which contribute to a decreasing cohort size throughout the degree. Some students will decide that the course is not what they imagined it to be; others will perhaps be inspired to pursue other fields of study encountered in the major. Please keep this in mind when interpreting the discussion below.

I have organised the data by the year of commencing the Bachelor of Commerce to conduct the analysis and have further assumed that all first-year actuarial subjects were enrolled in during the first year of the degree, second-year subjects during the second year, and so on. This might seem a fairly trivial assumption, but do recall that before the Melbourne Model was introduced, double degrees were prevalent, and thus it is entirely likely that a third-year subject would have been completed by a student in his or her fifth undergraduate year.

Enrolments in graduate actuarial subjects offered as part of the Master of Actuarial Science have been ignored in this section.

Average cohort sizes over the course of the degree



The above graph shows the average size of a cohort against the amount of time after commencing the degree. The data have been split into enrolments from students commencing the Bachelor of Commerce before and after the introduction of the Melbourne Model in 2008.

The graph above has used enrolment data for *Actuarial Modelling I* and *Contingencies* as a proxy for the cohort size 2 and 2.5 years after commencing respectively.

Average enrolments for core actuarial subjects

Subject	Years after commencement	2003-07	2008-13	2014	2015
<i>Introduction to Actuarial Studies</i>	0.5	137.40	170.67	173	239
<i>Financial Mathematics I</i>	1	151.80	130.00	121	—
<i>Financial Mathematics II</i>	1.5	114.60	111.83	107	—
<i>Actuarial Modelling I</i>	2	99.20	99.33	90	—
<i>Actuarial Modelling II</i>	2	97.60	99.50	88	—
<i>Financial Mathematics III</i>	2	91.80	91.17	80	—
<i>Contingencies</i>	2.5	84.20	87.67	83	—
<i>Models for Insurance and Finance</i>	2.5	80.40	87.00	—	—
<i>Actuarial Statistics</i>	2.5	83.60	89.83	78	—
Honours	3	44.20	33.67	—	—

The data pertaining to enrolments from students before the Melbourne Model as presented here are potentially slightly misleading and difficult to interpret due to the presence of double degrees. For example, *Introduction to Actuarial Studies* most likely did not hold the status of being quasi-core in 2003-07 as it does now, since its average enrolment count is significantly lower than that of *Financial Mathematics I*.

Percentage of students departing from the Actuarial major

	2008–13	Departure	2014	Departure
<i>Introduction to Actuarial Studies</i>	170.67	—	173	—
<i>Financial Mathematics I</i>	130.00	23.83%	121	30.06%
<i>Financial Mathematics II</i>	111.83	13.97%	107	11.57%
<i>Actuarial Modelling I</i>	99.33	11.18%	90	15.89%
<i>Contingencies</i>	87.67	11.74%	83	7.78%
Honours	33.67	61.60%	—	—

Over 2008–13, more than one in five students left the Actuarial major after *Introduction to Actuarial Studies* (ignoring the probably negligible breadth population), with more than one in nine leaving every semester thereafter. This apparently matches somewhat with that of my own cohort's experience (2014) — it is genuinely quite hard to estimate this from physical experience, since lecture absence introduces quite a bit of noise into your deduction.

In 2015 there was a significant surge in enrolments for *Introduction to Actuarial Studies* — about 40% higher than the 2008–13 averages and 2014 figures. Accordingly, enrolments from the same cohort in *Financial Mathematics I* and *Financial Mathematics II* have been slightly higher — around 10% higher than the 2008–13 averages; the exact numbers are not available yet, but the margin has significantly lowered.

Now for the headline figure: Over the 2008–13 period, 48.63% of students enrolled in *Introduction to Actuarial Studies* left before making it to *Contingencies*. For my cohort, the percentage is slightly higher at 52.02%. **Now** you can go tell high school students that only half of the cohort enrolled in Actuarial Studies to start with make it all the way to the end.

Would that be fearmongering? The version I was told while in high school was that the cohort size halved every year, but I was always sceptical of these sensationalised statistics, and clearly it did not scare me, because here I am still majoring in Actuarial Studies. On the other hand, I am ironically contributing to the 52.02% figure for my cohort, as I do not study *Contingencies* (which shows you a limitation of this study).

As it turns out, the half-life of the cohort is around 2 years rather than an alarming 1 year. Half-life 3 would be better, but that may never happen.

Exemption trends

For our older readers, the lingering question after you walk out of exam hall: Did you get that exemption? There is perhaps nothing worse than having to endure the wild difficulty of a University of Melbourne actuarial exam when you are trying to become accredited. Worse still, the exemption benchmark is happily left unspecified for the exemptions comprised of actuarial subjects, and this is compounded with the uncertainty of the scaling. How exactly are exemptions decided behind the closed doors of the Centre for Actuarial Studies? We may only guess, except that with some data we may be able to guess slightly better (or deceive ourselves in the process).

Actuarial exemption numbers

Year	Period	CT1	CT4	CT5	CT6	CT8
2008	—	79	38	33	37	27
2009	—	50	52	40	25	28
2010	—	59	58	38	44	42
2011	SM1	—	61	—	38	40
2011	SM2	57	—	50	—	—
2012	SM1	9	45	—	29	39
2012	SM2	45	9	50	7	9
2013	SM1	12	40	—	33	30
2013	SM2	59	10	50	5	5
2014	SM1	9	47	—	12	15
2014	SM2	41	9	52	8	2
2015	SM1	7	50	—	15	16
2015	SM2	57	5	51	7	3
2016	SM1	6	—	—	22	19

The above data have been aggregated across undergraduate and graduate cohorts and is probably quite useless without the enrolment numbers in the relevant subjects in comparison (to come below). Immediately one will notice that no distinction has been made between semesters of the same year before 2011. This is because the Master of Actuarial Science, which is the main source for exemptions in "alternate" semesters, was only introduced in 2011. For example, it is quite clear that exemptions in Semester 2 are greater than those of Semester 1 for CT1 in the years since 2011. This is due to Master of Actuarial Science students only being eligible for exemption after completion of *Mathematics of Finance I*, which is run during Semester 1 only. In comparison, the far greater Bachelor of Commerce cohort (in size) is only eligible for exemption from CT1 after completion of *Financial Mathematics II*, which is run during Semester 2 only.

Strangely the number of CT5 exemptions awarded has been very steady at around 50 since 2011.

As a brief reminder, below is a table of the Part I exemption subjects corresponding to actuarial subjects.

Actuaries Institute exemption subjects and corresponding university subjects

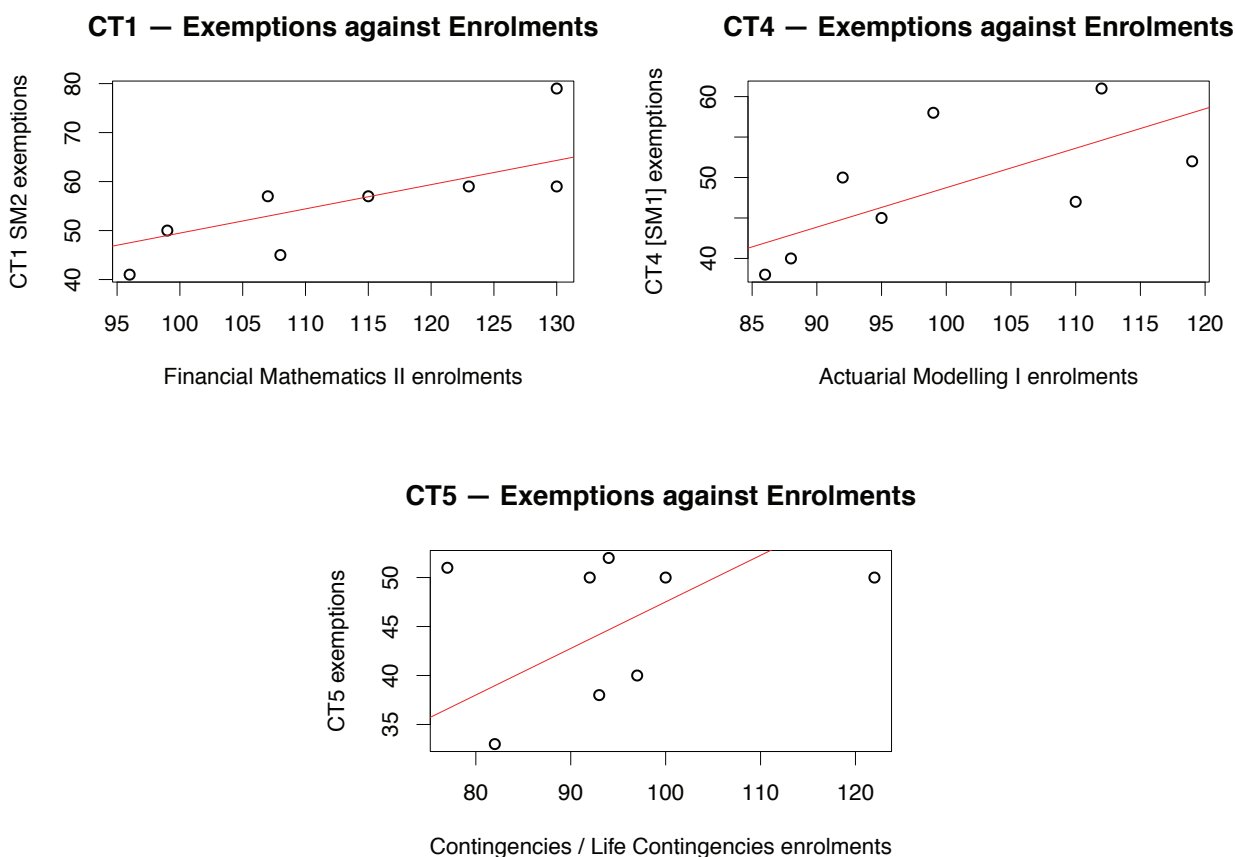
	Exemption subject	University subject
CT1	Financial Mathematics	Financial Mathematics I Financial Mathematics II
CT4	Models	Actuarial Modelling I Actuarial Modelling II
CT5	Contingencies	Contingencies
CT6	Statistical Methods	Actuarial Statistics Risk Theory I
CT8	Financial Economics	Financial Mathematics III Advanced Financial Mathematics I

We will inspect more closely the exemptions available to students without Honours: CT₁, CT₄, and CT₅.

Actuarial enrolment and exemption numbers

Year	CT1		CT4		CT5	
	Enrolments ACTL20002	Exemptions SM2	Enrolments ACTL30001	Exemptions [SM1]	Enrolments ACTL30003 ACTL90005	Exemptions
2008	130	79	86	38	82	33
2009	99	50	119	52	97	40
2010	130	59	99	58	93	38
2011	115	57	112	61	122	50
2012	108	45	95	45	100	50
2013	123	59	88	40	92	50
2014	96	41	110	47	94	52
2015	107	57	92	50	77	51

The scatter plots have been provided below. Under the assumption that a certain proportion of enrolments are exempted for each CT, a line of best fit has been added.



The least squares estimates for the proportion of exemption are

	CT1	CT4	CT5
Estimate	0.4948	0.4874	0.4751

This suggests that the odds of a random student becoming exempt are slightly worse than those of a fair coin toss. Of course, the fit is very poor for CT5, where exemption numbers since 2011 have remained fairly level despite fluctuating enrolment numbers.

Concluding remarks

As actuarial students, we are all told continually that Actuarial Studies is a difficult major. From the final years of high school, to just before university, and certainly all the way throughout the degree, every actuarial peer you talk to will be able to tell stories of abstract subject content, apocalyptic examinations, and a telling contraction of their cohort. Perhaps you have even heard of the Centre's staff discouraging students from taking up the Actuarial major — quite the anomaly.

The data have perhaps validated these sentiments about the major somewhat; now you have good reason to bemoan the odds of surviving all the way throughout the degree until graduation or your chances of attaining the exemption benchmark. Of course, high-level analysis of this data allows scope for confounding variables, and it is inaccurate to attribute the trends in the cohort size to difficulty of the major alone — it may be that the actuarial course is just really boring or unimpressive to people who were initially interested.

To all actuarial students present and future, the odds are certainly against you in this game, but making it through will be an impressive achievement. If a career as a qualified actuary is your goal, then as long as you keep fighting, it will be yours eventually.

Patrick He
Education Officer

Industry Introductions

Life insurance

The life insurance industry is a traditional actuarial field, with roles such as underwriting and policy pricing as well as advising on investments and marketing for products. As of 30th June 2016, there are 28 registered life insurers in Australia, with the Australian life insurance industry employing over 28,000 people. Among the 28 registered life insurers are six medium-to-large insurers: AMP, TAL, and the big four banks, some of which operate in the industry through subsidiaries.

A life insurance policy is essentially a contract between the insurer and the insured individual, who is called the *policyholder*, whereby the insurer is obligated to pay a sum of money (either a lump-sum payment or a series of payments) to designated beneficiaries (commonly families) upon death, illness, disability, or injury to the policyholder. Life insurance products protect policyholders from the loss of income arising from these events. In exchange, the policyholder regularly pays the life insurer sums of money called *premiums*.

As one of the largest, most well-established, and most stable industries, life insurance is a good practice for aspiring actuaries to begin their profession.

General insurance

Life is full of uncertainties, leading us on a rollercoaster of events — sometimes positive, other times negative. In times of unexpected damages, general insurance protects us and the objects essential in our lives. Houses, cars, and valuables are all objects covered by general insurance, alleviating the financial impact of replacing our everyday needs. Overall, any tangible asset can be insured under general insurance, granting safeguard against fire, marine, and motor accidents as well as other miscellaneous events.

Similar to life insurance, general insurance products come with a price in the form of premiums, an amount paid periodically to the insurer by the insured for covering their risks. The role of an actuary in this industry is to use their statistical and analytical skills to find the optimal level of premium to charge their policyholders. Other jobs of an actuary in general insurance may include: valuation of liabilities, stress testing, verifying risks between arrangement transfers, preparing written reports, and formulating suitable policies for the investments of the insurance company.

Apart from tangible asset protection, general insurance also covers areas such as workers' compensation, malpractice insurance, product liability insurance, and terrorism insurance.

Superannuation

Almost 20% of Australian actuaries are involved in superannuation-related work. Roles for actuaries range from highly technical work to advisory roles that draw upon actuaries' expert knowledge of the industry. In Australia, the \$2 trillion superannuation industry continues to develop rapidly, and has recently become the fourth largest pension market and seventh largest asset management market in the world. Alongside the ageing population, this means that demand for actuarial expertise is sure to grow into the future.

The superannuation industry has experienced significant reform over the past few years. As a result of government policy, we have seen the introduction of compulsory employer contributions, a proposed introduction to cap pre-tax voluntary contributions at \$500k, annual contribution limits, and new tax treatments of transition-to-retirement pension payments. The structure of the industry itself is also changing, with a trend of consolidation emerging (down from 250 registrable trustees in 2009 to under 150 in 2016), as well as increasing globalisation and diversification of assets under management.

These changes are extremely complex in their implementation and even more so in their implications, so there is a strong demand for industry experts to analyse changes and manage risks arising from these changes.

Actuaries working in superannuation can expect to perform traditional roles like constructing and applying complex mathematical models to ensure that pricing arrangements are able to cover expected pension liabilities. Other more standard roles include preparing actuarial certificates for pensions or acting as superannuation consultants for trustees or government organisations. In the modern Australian economy, actuaries can also work in areas like investment fund modelling for superannuation firms or even more dynamic areas such as management of longevity risk, which is the risk of increased payout liability arising from the higher life expectancy of pensioners.

Data analytics

With the abundance of data available in today's world, accompanied by people's newfound understanding of the value that data can add to businesses, data analytics has never been more exciting. Data analytics is the examination of raw data where one endeavours to draw insights from the given data set. In the financial world, the use of data analytics is widespread, as it allows firms to observe trends and patterns, resulting in better business decisions.

For example, actuaries in the insurance sector engage in data analysis to analyse the demographics of customers and the different types of claims that are made. By monitoring these metrics, insurance companies are able to understand better the changing customer base to determine whether changes need to be made to policy regulations or the process of pricing premiums.

Nowadays, the use of data analytics is spreading into the retail sector. By analysing transaction data, businesses can gain insight into the types of goods purchased and the demographics of customers.

As a result, trends in consumer behaviour are better understood, allowing retailers to meet changing customer preferences quickly.

Data analytics has only been recently adopted by actuaries but is already transforming businesses and extending the boundaries of the actuarial practice, making it a competitive yet rewarding area in which to seek employment.

Banking

The banking sector is not normally considered a traditional actuarial field, but an actuary's skills are highly sought after in this industry, especially as bank regulation has become more conservative in the years since the global financial crisis.

Actuaries in the banking sector are most suited for managing credit risk and reserving. When a bank issues loans, there is the possibility of default, so regulators require banks to retain funds as capital. A bank wants to minimise the amount of funds held in reserve, because the opportunity cost of doing so is the inability to lend these funds to other people in return for interest, yet they must meet regulatory requirements and be able to meet cash flow obligations to satisfy regulators and clients. It is a fine balancing act at which actuaries can excel.

The Australian banking sector is dominated by the four major banks: Australia and New Zealand Banking Group, Commonwealth Bank of Australia, National Australia Bank, and Westpac Banking Corporation. There are also credit unions and mutual banks that form a substantial part of the sector, such as Credit Union Australia, as well as smaller regional banks such as Bendigo and Adelaide Bank.

Gold Sponsors

Quantium (Data analytics, General insurance)

Willis Towers Watson (Superannuation)

$t=s$

$p+$

86.5

x

250

I

%

y

2.1

3.2

z

5

340

n

\$

60

-q

QUANTIUM

Big brands | Big data | Big opportunities



Quantium is an international company of 500 actuaries, mathematicians, statisticians, engineers, scientists and business majors across Australia, New Zealand, India and South Africa. Working across consulting, analytics and technology, we partner with national and international giants and growing businesses in almost every industry with a unique market proposition that involves data partnerships.

Our unique data partnerships span supermarket baskets, banking transactions, pay TV viewing and are complimented by our media partnerships which enable data driven media activation and measurement. Hashing algorithms allow us to see the full 360 degree view of consumer behaviour that translates advertising or placement into physical sales.

Our graduate program allows you to dive straight into your future career.

The complexity of our data assets and the strong client relationships gets you immediately involved in delivering insights to clients while shadowing team members and management in external meetings.

Starting out at Quantium means you get your hands dirty with real, raw data. You run the SQL queries, you draw the insights and you explain the data. This way you learn on the job and can spend the rest of your career with deeper insight into raw data than many of your student colleagues will ever have exposure to.

If data analytics is being seen as a strategic national resource, your best first step is to be at the cutting edge. Use your skills to do ground breaking work with the only company who partners with the likes of Google, Facebook, Woolworths, CoreLogic, NAB, Foxtel, oOh! and many more.



For more information about our products and services, and the graduate and internship programs at Quantium, please go to <http://au.gradconnection.com/employers/quantium/#quantium> or email Camille.Hughes@quantium.com.au

QUANTIUM PARTNERS WITH WORLD LEADING BRANDS



Testimonials



The unique opportunity to tackle non-traditional problems and push the boundaries of applied analytics. Here, you get the freedom to approach tasks in dynamic ways because you're encouraged to suggest better ways of doing things



Luke Heinrich
2015 grad



Alice Brennan
Summer Intern
2015 / 2016

During my time at Quantum I worked on redeveloping a piece of software that is a vital part of analysts' work. We were lucky enough to receive coding training and I now know two new computer languages!

I used one of Australia's largest clusters to process vast datasets, and really saw first-hand how data driven insights can actually help clients target the right people by understanding customer behaviour



Jenkin Ho
Summer Intern
2015 / 2016



www.quantium.com

TELEMATICS

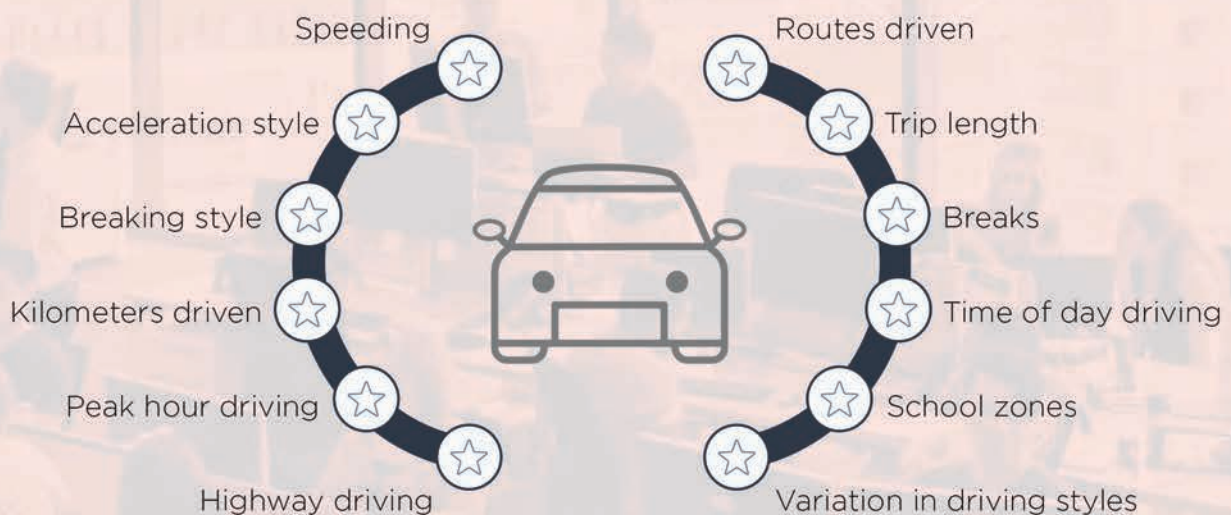
New world insurance




Telematics in comprehensive car insurance is about rewarding better drivers based on how they drive and use their cars, especially for young drivers who are paying a lot more for car insurance. Driving behaviour data such as speed, distance travelled and heavy braking is transmitted through a small self-installing device that plugs in under the dashboard.

Quantum has been instrumentally involved in the first telematics implementations in Australia, and in advising on telematics strategy for the wider industry. We draw on our core of actuarial techniques, combined with a range of machine learning and other data analytics techniques to advise our clients. For instance, Quantum has identified driving behaviours that could potentially separate the best and the worst drivers and advised the insurer on strategies to enhance not only pricing but also targeting and customer experience.

What sets us apart is the commerciality we bring to our work, turning data heavy insights into commercially sound strategy for our clients. We also look for these qualities in our hires.





You've nearly completed your degree, and you're ready for what's next: a job that will inspire you, make you think and put your skills to the best use.

But don't you really want more than that?

**Together, we unlock potential.
Learn more at willistowerswatson.com.**

If you join us, you'll often be challenged to do something extraordinary. From the start, you'll team with senior colleagues to learn on the job and interact with clients on projects that help improve their business. And along the way, you'll be in charge of your own career, working with your manager to decide what's next and how to get there. Sounds good?

To apply for current opportunities, visit willis-towers-watson.jobs.net and search for jobs by going to the "students" tab.



Unlock your potential

The Willis Towers Watson graduate program

Where will your actuarial career take you? No matter which aspect of actuarial work you decide to follow, the opportunities for motivated individuals are global.

Take the example of two qualified actuaries at Willis Towers Watson. Jeff Chee and Surath Fernando (pictured above). Jeff has been with Willis Towers Watson for 15 years and Surath for 10. Both consider their consulting roles to have given them a wealth of opportunities.

“Over the last 10 years I’ve been given access to different roles, different projects and different clients and it’s helped me understand what I enjoy and the skills I’ve needed to develop to be effective,” Surath says.

“For a student, a consulting firm is a fantastic place to learn. We have great people across streams such as retirement, investment or risk consulting who are experts in what they do and happy to share their knowledge and insights. It’s very supportive. At the same time you have access to a big range of clients and

the chance to do some leading edge work.”

Jeff agrees: “The main reason I’ve stayed here for 15 years is that I’ve not done the same job for more than three or four years in a row.

“You have to earn your opportunities, but there’s an outcome-focused culture here and you’re given a lot of latitude and flexibility to put your hand up for different roles, across lines of business or even across countries. My role is throughout the region and I get to travel around two months a year, which I really enjoy.”

There are two personal traits that Jeff considers essential to thrive as a consulting actuary. “You need to be able to adapt and be resilient,” he says. “Every day you need to manage multiple projects and stakeholders. It’s hectic but a great environment.

“The breadth of exposure a graduate gets here is one of the best ways I can think of to start a career. There are different lines of business to work in and, on top of that, there’s the

constant challenge of working with clients and solving issues.

“Whether you’re looking to work in a technical, research or account management role, there’s the ability to tailor what you do, as you progress in your career.”

For over a decade, Willis Towers Watson has helped actuarial students take the first steps in their professional career. With a long history of attracting the brightest minds in the business, Willis Towers Watson’s graduate program helps students realise their ambitions of a rewarding and fulfilling career.

A key consideration for students is a combination of the right sort of experience in their professional role and study support. Willis Towers Watson offers actuarial graduate program members a substantial number of study days to help them prepare for professional exams, as well as a significant contribution towards tuition materials, exam costs and travelling expenses.



Jeff Chee

Head of Investment Strategy, Australia and Asia-Pacific



Surath Fernando

Consulting actuary

What you wanted to be when you grew up:

Jeff: After the initial astronaut aspirations I think I wanted to become some sort of e-sports world champion – I wouldn't say that I've grown up yet so there is still time!

Who influenced you to become an actuary:

Surath: My dad. He played an active role in my life growing up. I'd always been passionate about mathematics, but he put me in touch with an actuary and encouraged me to find out all I could about the profession when I was in my first year of university. Once I learnt about the profession and how it enabled me to apply my love of mathematics in the financial world, becoming an actuary was a simple decision.

What's the most underrated skill an actuary can possess:

Jeff: A strong capability at proper scientific programming. Excel does a lot of things but it does all of them really badly.

Surath: Listening. Often actuaries are looked upon to solve problems and provide answers, but the ability to listen and ask good questions that get to the heart of a problem enable actuaries to get a holistic understanding of the issue and thus provide solid business solutions.

Complete the blank. Numbers are: _____

Jeff: intriguing.

Surath: insightful.

What would be your one piece of advice for an actuarial student?

Jeff: Maintain a friendship group outside of the actuarial industry to help you keep perspective on how (un) important passing exams really is in the grand scheme of things.

Surath: The technical nature of the subjects can make actuaries seem as pure mathematicians, but this is not the case. Always question how technical concepts apply in the business world. This mindset can help students identify the areas they are passionate in, thus guiding them towards the right career path.

If you could have one wish, what would it be:

Jeff: To have the ability to pause time so I can get more done during my day.

Surath: Someone to run a successful ad campaign on the term actuary, so we don't have to answer the question "What is an actuary?" anymore!

Who would you most like to sit next to at a dinner party:

Jeff: Anders Friden, lead singer of In Flames (my favourite band).

What's something people don't know about you:

Jeff: I run a craft beer podcast and write for a food and travel blog in my spare time.

Surath: I'm passionate about karate and have been practising for over 15 years. I'm currently on my Second Dan Black Belt. I love mountain climbing and have hiked up mountains across Europe, Africa, South America and the Himalayas. I've just embarked on my most exciting adventure – marriage.

Four words that sum you up:

Jeff: Eccentric, focused, insightful, laid-back.

Get in touch

Students about to graduate or in their final year of study can apply to Willis Towers Watson's graduate program. Applications open each year in February for graduate roles and July for vacation roles.

For more details, please contact Nicole Lauritz:

nicole.lauritz@willistowerswatson.com or +61 3 9655 5432

Educational Institutes

Actuaries Institute

The University of Melbourne*

$t=s$

$p+$

* *No submission*

86.5

x

250

I

%

y

2.1

3.2

z

5

340

n

\$

60

-q

e

Why not start at the top?

A recent McKinsey study estimated a US short-fall of up to 190,000 people with deep analytical skills.

Harvard Business Review agrees adding that 'Data Scientists' will be the 'Rock Stars' of the 21st century.

In Australia, they're known as Actuaries.

Actuaries have the skills to find pure, honest insights hidden in business data. Insights that enables business decision-making, that can change businesses, industries and even countries.

Have you ever considered becoming an Actuary?



The Challenge

Life as an actuary promises a good income, the freedom to travel, the chance to work with smart people and the opportunity to lead. If you can qualify as an Actuary, there is nothing out there you can't achieve if you put your mind to it.

The challenge is intellectual rigour, sheer hard work and persistence.

Being an actuary isn't just a job, It's a profession.

It's a career where you can use your talents to solve real world problems.

It's a commitment to uphold certain standards of performance, professionalism and ethics.

It's a qualification you can take anywhere in the world.

You'll join a highly regarded profession whose members are in demand and well-rewarded for their analytical and problem solving skills and their ability to lead – and you'll gain the fellowship and support of an elite network of peers throughout Australia and internationally.

Qualities you need to succeed

- Communication skills.
- Mathematical skills.
- Complex problem solving.
- Interest in business.
- An eye for detail.
- Focus and dedication.

What does an actuary do?

Many actuaries use their skills in insurance, superannuation or investment, while others work in consulting firms delivering actuarial and other services to large organisations.

However your actuarial career may look, skills in data analysis and management, risk management and data-based decision-making are vital in many industries.

Once you qualify you can choose to work just about anywhere – many actuaries now build careers in enterprise risk management, data analytics, energy and the environment and health funding.

What are you looking for?

Career satisfaction

As an actuary you'll be offered opportunities in high-pressure, high-level roles that demand hard work but also offer great intellectual stimulation, variety and the ability to make big contributions to your organisation. Many actuaries move swiftly into leadership roles because their training in evidence-based decision-making is highly valued at the executive level.

Be set up for life, travel the world

Being an actuary is one of the highest paid professions and graduate actuaries are highly employable. There is invaluable credibility in being an Actuary - you'll enjoy great street creds in the business world. Many Actuaries achieve senior executive roles - CEO, Head of Risk, Lead Partner, Chief Actuary are some examples.

Our Australian qualifications are widely recognised and many Australian actuaries work overseas, from Zurich to Mumbai, in developed and developing economies.



How to become an actuary

The actuarial education program in Australia is made up of three parts.

Part I can be completed by studying at one of the seven accredited Australian universities, through correspondence with the London Institute of Actuaries or by credit transfer.

Part II is taught by seven accredited Australian universities.

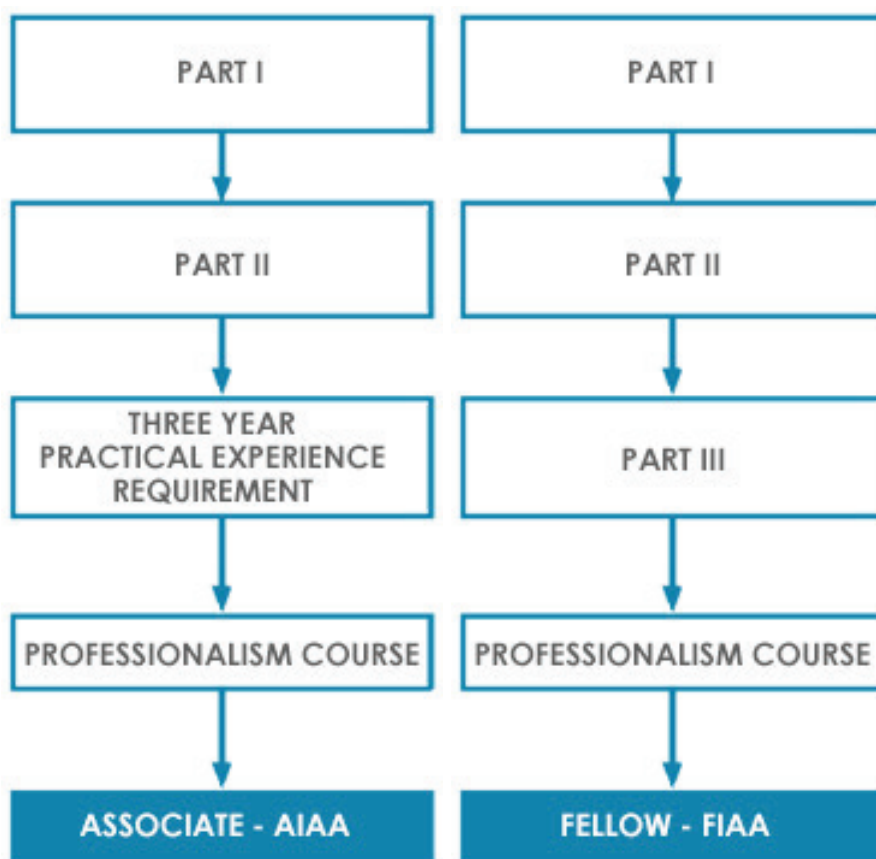
Part III is offered by distance study through the Actuaries Institute and allows you to complete studies in one specialist area of practice:

- General Insurance;
- Life Insurance;
- Global Retirement Income Systems; or
- Investment Management and Finance; plus
- Commercial Actuarial Practice.

Members who complete Part I, Part II, the three-year Practical Experience Requirement and the Professionalism Course can become an Associate of the Institute of Actuaries of Australia (AIAA) and use the designation 'Actuary'.

Members who complete Part I, Part II, Part III and the Professionalism Course earn the qualification of Fellow of the Institute of Actuaries of Australia (FIAA).

By becoming a Fellow, you will reach the pinnacle of the actuarial profession. You'll also be eligible for statutory roles and be able to enhance your subject matter expertise.



Visit www.actuaries.asn.au for more about becoming an actuary.

The Actuaries Institute

The Actuaries Institute is the professional body representing the actuarial profession in Australia.

We're committed to promoting and maintaining a high standard of actuarial practice and supporting our members as they progress through their career.

From educating the next generation of actuaries to fostering a strong professional network, the Actuaries Institute offers a wide range of services that can help you become a successful actuary.

Become a University Subscriber

The Actuaries Institute has a free university subscription for students pursuing an actuarial degree or mathematics and science-related degrees.

Find out more at

www.actuaries.asn.au/UniversitySubscriber

Institute of Actuaries of Australia
ABN 69 000 423 656
Level 2, 50 Carrington Street
Sydney NSW Australia 2000
t +61 (0) 2 9239 6100
f +61 (0) 2 9239 6170
e actuaries@actuaries.asn.au
w www.actuaries.asn.au

Silver Sponsors

Cause Way (General insurance)

Finity (General insurance, Data analytics)

Gen Re* (General insurance)

KPMG (General insurance, Data analytics,
Life insurance)

Mercer (Superannuation)

Russell Investments (Superannuation)

* *No submission*

86.5

x

250

I

%

y

2.1

3.2

z

5

340

n

\$

60

-q

e



Our Purpose

Cause outcomes that do justice to their place in our hearts.

Our Mission

Walk with people and organisations, infusing creative cause-based thinking and strategies, to maximise cause outcomes.

Current Fields of Work



Strategy
and
Growth



Forecasting
and
Modelling



Capital
Management



Pricing



Insurance
and
Social Sectors

Emerging Fields of Work



Financial Planning
The Cause Way



Relational Analytics
Measuring and Improving Relationships

Thought Leadership

We apply actuarial skills and our distinctive approach to strategy to problems in the insurance and social sectors, and soon to financial planning. We have an entrepreneurial culture where time is invested into thought leadership, new ideas and seeding new business lines.

Are You Ready for an Adventure ?



Jevon Fulbrook



Working at Cause Way is a struggle, because every day pushes me to become a better person. As a graduate I knew I had a lot of development room, yet I had no idea how much. I have made more mistakes than I thought I would make in my entire career in my first 8 months, yet Cause Way has a culture that encourages learning from mistakes and working to best resolve them rather than one where mistakes must be avoided at all cost.

At Cause Way, the organisation's values are not just words but take on real meaning in a daily basis through the work we do with clients and internally. Personal development opportunities are constantly presented, so far I have been incredibly fortunate to attend a conference on relational analytics focusing on the measurement of and maintenance of relationships, co-present at the Actuarial Financial Services Forum as well as consult directly to clients. The work itself has been varied, exciting and relevant to my background in actuarial studies.



"Growing in an environment that focusses on and fosters relationship building, interconnectedness and soft assets."

Leonard Seok

"Everyone is willing to go an extra mile to help out whenever the need arises."

Rui Jin

"Cause Way has a culture that everyone is willing to help each other grow, both individually and as a team."

Catherine Huang

"Great team, great people, great ideas doing things that matter."

Pamela Varela

"It's a pleasure to work everyday towards my causes."

Yanlin Li

"It is not just a job it is a cause."

Davor Borojevic

Cause Way Would Like to Talk to You !

An actuarial student with a heart for social causes who is willing to trade off some salary for increased time investment into their social and personal causes.

We like to employ people in their last or second-last years of uni, on a casual basis, and use the time for us to get to know each other in the work environment. We can then both make a well-informed decision about whether to work together after graduation. Jevon Fulbrook is one example of someone who has become permanent via this pathway.

Numbers don't define us

Starting your career with Finity gives you amazing personal and professional development opportunities.

Our project-based approach to problem solving means you get to work with multiple people across the firm at any one time. On a daily basis, you'll have many on-the-job mentoring opportunities.

And the people you work with? They just happen to be industry leaders and technical experts who enjoy seeing you grow and develop.

We look after our aspiring actuaries with market-leading study support and remuneration. We are proud to say our graduates achieve double the average pass rates for their actuarial exams.



Finity Consulting

Finity boasts some of Australia's leading analytical minds including two former Actuaries of the Year. Finity is also the first inductee to the Australian Insurance Industry Awards Hall of Fame after being awarded the Australian Insurance Industry Awards - 'Service Provider of the year to the Insurance Industry' five times and in 2015 was awarded 'Professional Services Firm of the Year'.

Who are Finity Consulting?

Finity Consulting is Australia's largest independent actuarial and analytical firms and a leader in the development of data-driven insights. We work with both large and niche insurers, as well as government agencies, using best practice analytics and cutting-edge techniques to deliver world-class actuarial and consulting advice.

What is it like to work at Finity?

At Finity we encourage all employees to get involved with growing the business and its intellectual capital. We offer all the benefits of a big firm with the friendliness and supportive atmosphere of a smaller firm.

From day one, you'll notice Finity's unique, fun and engaging culture where people are truly valued for who they are and what they offer. Some of the benefits of working at Finity are:

- ➔ Market leading salaries
- ➔ Generous bonus scheme
- ➔ Paid study leave program
- ➔ Ongoing professional development support
- ➔ Great culture
- ➔ Lunch time sports
- ➔ Access to industry leaders
- ➔ Flexible working practices
- ➔ Social interest groups
- ➔ Networking and industry events
- ➔ Rewards and recognition for contributions
- ➔ Wide variety of interesting & challenging work
- ➔ Best employer staff engagement results 5 years in a row

"Being a leading actuarial consulting firm, Finity is perfect for me because I get to do interesting work with a range of clients across multiple disciplines, such as big data, natural hazards & competitor pricing analysis."

Student Programs

At Finity talented people are the future of our business. Each year we commit to providing opportunities for both graduates and interns to start their career with us. We offer:

Actuarial Internship program

Our 10 week paid summer internships gives you inside information on the industry and our culture. As well as the opportunity to work with experts and gain an understanding of the daily life of an actuary.

Applications open for our internship program open in June each year.

Actuarial Graduate program

Our graduate program will give you the skills you need to hit the ground running. We introduce you to all of our analytics techniques and provide 12 months of industry leading technical training to hone your skills. You'll also be supported by a 'buddy' to help you settle in and guide you along the way. Our graduates quickly develop technical skills and gain confidence in working alongside industry leaders. Our team structure allows you to work across a diverse range of clients and projects.

Applications for our graduate program open in February each year.





Actuarial, Insurance & Superannuation

How can a large insurance company achieve its major cost savings goal in such a competitive environment?

How do prospective buyers in an acquisition understand the underlying risks and value of their purchase?

Should an insurer move capital from one fund to another to capitalise growth projects?

... These are some of the many questions that actuarial consultants face as they work with clients to solve their issues. Clients rarely expect just a quantitative diagnosis; they want to hear practical and effective solutions to generate real bottom-line results and a sustainable competitive advantage.

This is the world of actuarial consulting.

Welcome to KPMG.

KPMG Actuarial, the actuarial consulting division of KPMG, has a team of over 100 staff in the Actuarial, Insurance & Superannuation team, based in Sydney and Melbourne, operating in life and general insurance, superannuation and data analytics as well as finance and funds management. We offer rewarding careers for outstanding professionals in our open and friendly culture.

It's more than just work

At KPMG it's important to us to help you develop your professional career. We work with you to establish a career development plan, we have an employee mentor program, regular training sessions, generous study leave (that we make sure you take) and study mentors. But it's more than work – there are also regular social functions, including fortnightly drinks, weekend tennis, lawn bowling, wine tasting and even skiing trips!

If you want to:

1. Get a diversity of experience, including working on innovative, industry leading work
2. Work with the best and the brightest
3. Work in a team and be developed
4. Have access to senior actuaries and industry leaders

We would like to hear from you. Our internship programs concentrate on doing client work and you get to work on a project from start to finish. We begin our graduate recruitment process in February each year.

“ Every day is a challenge, since every project is something different. That's what makes working at KPMG so exciting. ”

Tharan Jeyathanan, Consultant

“ At KPMG you are surrounded by the sharpest and the smartest. To become the best you need to surround yourself with the best in the industry to maximise your learning experience. Previously, I was the external ASSOC Social Director at Macquarie University. I now get the privilege to organise social events at KPMG which is lots of fun! ”

Jessica Lee, Consultant

“ I find working at KPMG rewarding; every day is different which makes it challenging but fulfilling. I've been part of many new and exciting projects in my last four years at KPMG – including secondments to companies in Australia and overseas, collaborating with other parts of KPMG on joint projects, and opportunities to help companies across Australia, New Zealand and Asia. ”

Cindy Cheung, Manager

“ KPMG has given me exposure to a broad range of opportunities across the general insurance industry and beyond. Working in a passionate, dynamic and tight knit team of skilled industry experts, with access to other KPMG benefits including soft skills training, social events and generous study support, I have been able to develop both personally and professionally. ”

Chris Armstrong, Senior Consultant

Attributes that we are looking for include:



“ The KPMG internship was a great way to accumulate some real life work experience. I was able to pick up a toolbox of technical skills, develop professional communication skills as well as receive industry based training. I had the opportunity to work on a wide variety of different projects in the life insurance team. Being accompanied by smart, good humoured and very helpful colleagues definitely made my transition from university to work a smooth one. ”

Eric Wang, Winter Intern

“ As a Consultant at KPMG, I get to be part of a team working on industry leading projects. This helps me develop in ways I never thought was possible. This exciting experience never stops. You will never find a situation where you are not learning and developing professionally. ”

David Tran, Consultant

“ At KPMG we have a wonderfully supportive team who are more than willing to help each other out. Whether it's a question on study or career progression or just how to work through a valuation, our team always make time to help. I've worked on such a variety of jobs over my time at KPMG that having those individuals around you willing to help when needed is something I don't take for granted. At the same time we have fun – be it after work drinks, team lunches or just taking time out during the day – we all join in, no matter what level. ”

Josh Martin, Consultant

Wait no longer!

For information about recruitment go to www.kpmg.com.au



If you thrive on a challenge, are passionate about ideas, love solving problems, and truly enjoy connecting with people, then you will love working for Mercer.

WHAT TO EXPECT AS A GRADUATE

Joining Mercer as a new graduate, you are likely to begin your career as an analyst. This will see you learn the aspects of the job from the ground up. You will be part of a team using actuarial skills and modelling to develop successful outcomes for our valued clients. The wide breadth of our work will provide exciting opportunities for our graduates to kick start their careers.

TRAINING AND DEVELOPMENT

At Mercer, your work environment doubles as your classroom, where new skills are gained, applied, and shared with colleagues and clients. Knowledge and skills gained through study and workshops blend with your day-to-day experiences to create an active, stimulating learning environment. Your learning opportunities can come from a variety of sources including on the job training with your colleagues, professional training workshops, our online training programs and independent study.

STUDY SUPPORT

Mercer is committed to your professional studies by offering generous study leave and reimbursing your tuition and examination fees. As actuaries, we understand the challenge of balancing work, life and study and have tailored our program to allow you to achieve your goals in all three aspects.

BUDDY PROGRAM

Mercer's Buddy program is designed to help new employees build relationships from day one. Your buddy will most likely have been a recent graduate themselves and will know exactly what it was like to be in your shoes, and help you make the transition into working life as smooth as possible, with the support you need to become a part of the team.



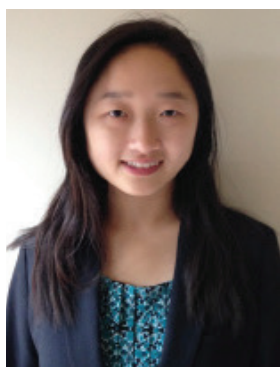
ABOUT US

Mercer is a global consulting leader in talent, health, retirement and investments. Our consultants help clients around the world advance the health, wealth and performance of their most vital asset – their people. We are based in more than 40 countries around the world and our clients include some of the world's biggest multinational organisations with significant global operations. We're passionate about delivering the best outcomes for our clients.

SPECIALISTS IN RETIREMENT CONSULTING

At Mercer, we hire the best people with a range of skills across actuarial, finance and legal services to help employers and financial institutions manage their retirement benefits on behalf of their members and employees. As people's retirement needs, regulation and legislation continue to become more complex so too does the level of expertise you need to navigate the challenges ahead. This is why Mercer's clients are not just some of the largest superannuation funds but they are also diversified wealth managers, asset managers, insurance providers, and financial planning advisors.

GRADUATE INSIGHTS



JENNY FAN

Since starting at Mercer, I have been involved in a variety of interesting and diverse projects which have greatly enhanced my knowledge of the superannuation industry. These include the Melbourne Mercer Global Pension Index, which evaluates different pension systems around the world in terms of their adequacy, sustainability and integrity.

As there are many challenges facing the superannuation industry such as increasing life expectancies causing people to outlive their retirement savings, there is plenty of scope for innovation and problem solving and it is very exciting to be a part of a team that is at the forefront of tackling these issues. Most of all, I have thoroughly enjoyed the supportive and highly collaborative culture in the team, which has been vital in promoting my learning and development. I would highly recommend Mercer to all aspiring actuaries!

LEROY D'SOUZA

Working at Mercer has made me realise that there is a lot more to retirement than meets the eye! During my time here, I have been involved in a number of projects relating to superannuation ranging from statutory actuarial work such as valuation of defined benefit liability for employers, to more non-traditional projects such as developing online retirement income calculators for super fund members.

Although retirement is the core of our business you are definitely not limited to superannuation based projects. Actuaries in our team are also involved in work for life insurers, investments and even loyalty programs, so there is definitely something here for everyone. One of the main reasons I enjoy working at Mercer is the supportive team environment and a commitment to work life balance, which is especially important during the early period of your actuarial career as you (attempt to) juggle both work and study.



Keep an eye on <http://www.mercer.com.au/careers.html> for opportunities to join the team.



A GREAT JOB OPPORTUNITY WITH RUSSELL INVESTMENTS

ABOUT OUR FIRM

Russell Investments, a global asset manager, is one of only a few firms that offers actively managed multi-asset portfolios and services that include advice, investments and implementation. Russell Investments stands with institutional investors, financial advisers and individuals working with their advisers—using the firm's core capabilities that extend across capital market insights, manager research, asset allocation, portfolio implementation and factor exposures—to help each achieve their desired investment outcomes.

Russell Investments has more than AUD\$321 billion in assets under management (as of 31/3/2016) and works with more than 2,500 institutional clients, independent distribution partners and individual investors globally. The firm has four decades of experience researching and selecting investment managers and meets annually with more than 2,200 managers around the world. Russell Investments also traded more than US\$1.7 trillion in 2015 through its implementation services business.

RECRUITMENT

Number of graduates employed: Depending on our hiring needs, Russell Investments may have graduate positions available in our Sydney or Melbourne offices.

Recruitment process: Graduate recruitment generally involves three rounds of interviews – one initial telephone interview and subsequent rounds in person. Our interviewers will be looking for evidence of the key skills and characteristics that make people successful at Russell Investments.

Qualities and attributes for successful candidates: We seek graduates who have a strong academic track record and a passion for working in a team oriented business. To be successful in this role and at Russell Investments, you will need to have a strong analytical approach to problem solving, be self-motivated and operate with non-negotiable integrity. Our values of team culture is critical to our success and we expect all our people to contribute across the business through demonstrating strong interpersonal skills and a willingness to support their peers.

Recruitment Contact: HR Coordinator
Tel: (02) 9229 5111 | E-mail: syd-hrr@russellinvestments.com

INSIGHT

David joined Russell Investments as an Actuarial intern during the summer vacation from the University of Melbourne last year.

“Right from my first day I found myself doing actual work, with real life results. I was challenged to utilise all my problem solving skills and at the same time I found support was readily available from all my colleagues – from the junior analysts all the way to the senior directors.

I was involved in numerous projects for many different clients, which meant the work was never repetitive. My tasks ranged from traditional superannuation work, such as actuarial valuations and regulatory reports, to unique investigations into queries posed by our clients.

While the team at Russell Investments are professional and committed to delivering the best results, they also are fun and friendly. They always manage to find an excuse to go out for celebratory lunch, whether it be a birthday, going away, employee achievement or just to enjoy some delicious food together.

Overall, I have come out of Russell Investments better positioned to tackle the corporate world of an actuary and managed to make a couple of friends along the way.”

ON THE JOB

Career Development: The Russell Investments' workplace is a dynamic, challenging environment that drives our high performance culture. Our values however don't ever change. We behave with non-negotiable integrity, We have a genuine focus on people, including family, community and personal goals. We strive to exceed client expectations.

In starting your career with us, our flat organisational structure means you have the opportunity to access and interact with all levels of our business to learn new skills, offer insights and deliver to our client needs.

A typical career path can include opportunities to grow through on the job experiences and investment in your capability from analyst to consultant and director. At Russell Investments, we also offer a range of initiatives to develop your career through on-the-job mentoring to specific development programs for our Emerging Professionals.

Secondment opportunities: We can offer employment/secondment opportunities overseas and interstate, depending on your skills and the needs of our other offices.

Support towards actuarial qualification: At Russell Investments, we strongly support the achievement of relevant qualifications and provide study assistance to a range of approved qualifications. For your actuarial qualifications, you can access our study assistance program which includes study and exam leave; course fee reimbursements and payment of exemption fees.

Charitable, Social and Health & Well Being programs: We also have a range of local benefits including a Health & Wellbeing program, Charitable & Community programs, Social programs, additional annual leave, and a strong performance culture where your contributions are rewarded financially as well as through your career goals.

ADDITIONAL INFORMATION

Further information can be found on our website:
www.russellinvestments.com.au.



Bronze Sponsors

AIA (Life insurance)

am actuaries (General insurance)

AMP (Life insurance)

Cumpston Sarjeant (General insurance, Superannuation)

Deloitte (Life insurance, General insurance, Banking, Superannuation)

EY (Banking, Data analytics)

IAG (General insurance, Data analytics)

PwC (General insurance, Banking, Superannuation)

Taylor Fry (General insurance, Data analytics)

86.5

x

250

I

%

y

2.1

3.2

e

z

5

340

-q

60

n

\$



Make a Difference

Start your career with AIA

At AIA Australia we want to make a difference in as many people's lives as we can, a philosophy that applies to our customers, partners and our people.

We're looking for graduates with energy and passion to join our Actuarial Graduate Program, and in return for your dedication and hard work, we offer opportunities that can make a real difference to your career.

Who are we?

We're one of Australia's leading life insurers and we're growing fast. Plus, we're backed by AIA Group, the largest independent, publicly listed pan-Asian life insurer.

What we could offer you...

- A place in our Actuarial Professional Family which aims to be the pre-eminent actuarial team in Australia.
- A great actuarial graduate program based in Melbourne:
 - Three year program
 - The diversity of five rotations across five different teams
 - Equal opportunity for all students
 - Excellent support including on-the-job training, mentoring and study support.
 - Easy access to future opportunities across Asia.

"The program is extremely supportive and dynamic. I'm very glad that I have joined a company that encourages flexibility, diversity and development."

Chen Yang, AIAA 2015 Actuarial Graduate

"The program is perfect for the transition from university study to my professional career. I have improved and learned many skills, as well as met many supportive colleagues who are more than willing to share their knowledge and experiences."

Annie Chen, AIAA 2016 Actuarial Graduate

Want to know more? We'd love to hear from you:

Arthur Kong – Arthur.Kong@aia.com

Joyce Wang – Joyce.Wang@aia.com

www.aia.com.au
www.aiavitality.com.au

Life's better with the right partner®



About Us

Established in 2003, **am actuaries** is an actuarial consulting firm specialising in general insurance within the Melbourne market, particularly in areas of workers compensation, medical indemnity, accident compensation and public liability. As a growing company, we aim to offer clients a personalised service and high quality advice for controlling their risks and optimising their returns.

Our team of actuaries advise private insurers, government departments and agencies, and large corporates on a broad range of areas including:-

- ∂ Financial modelling and analysis
- ∂ Pricing of general insurance, hospital services and premiums
- ∂ Evaluations of outstanding claims liabilities for insurers and self insurers
- ∂ Implementation of budget projections for general insurers
- ∂ Assessment of the financial impact of regulatory changes
- ∂ Expert evidence for court proceedings

Graduate Opportunities:

At **am actuaries** we search for motivated individuals who are constantly striving to excel in their career and willing to take on challenges. Our growing team of 4 actuaries and 3 analysts provides a promising stepping stone for students entering the workforce. Students are provided with the opportunity to complete a wide range of practical tasks, allowing them to experience the actuarial industry more comprehensively.

We are open to providing students with working opportunities during the summer vacation period although we do not offer a formal internship program as such.

What Do We Look For?

Candidates who are able to demonstrate the following attributes:

- ∂ Consistently high academic results
- ∂ Strong analytical, communication and problem solving skills
- ∂ Active team member and demonstrates initiative
- ∂ Open to discussion and challenge
- ∂ Familiarity with Microsoft Office suite and programming platforms such as SAS and Excel

Support Towards Actuarial Qualification

Should you become successful in gaining a full time employment opportunity with **am actuaries**, we assist our employees towards actuarial qualification by subsidising course fees for the first and successful attempts of the IAA actuarial education program. We also offer a competitive study leave policy and provide assistance and mentoring support for students completing actuarial exams.

Career Development

Successful candidates will commence their career at **am actuaries** as an actuarial analyst, working as part of a team under the supervision of senior analysts and/or actuaries. The ability to work alongside experienced actuaries provides employees with the guidance they need to enhance their professional development so they can become a valuable member of the **am actuaries'** team.

Candidates will advance their career through progression through actuarial exams and professional development which will lead them to senior analyst, actuary and ultimately consulting actuary.

Recruitment Contact

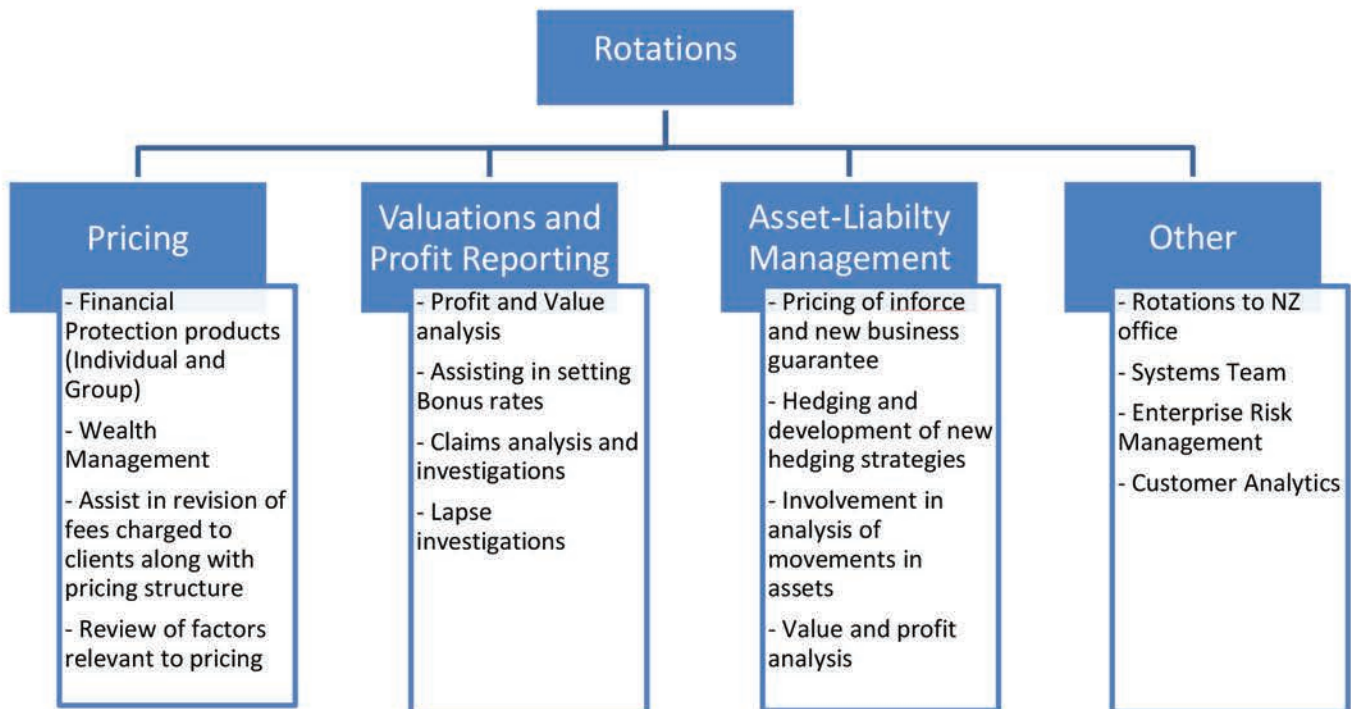
Bruce Harris
Consultant
am actuaries
Suite 8.05, 343 Little Collins Street
Melbourne VIC 3000
Tel: (03) 8641 6900
Email: bruce@amactuaries.com

Who we are?

AMP is a leading wealth management company that has been operating in Australia and New Zealand for more than 160 years. It provides financial advice, products and services to over five million retail customers and 400 institutional clients. The actuarial function within AMP is responsible for applying actuarial skills to all areas of the AMP business including product pricing, product profitability valuation, capital management, risk management, strategy and operations and many other areas that highly value actuarial skills.

The Actuarial Graduate Program

The Actuarial Graduate Program is a Sydney based, three year program with one twelve-month rotation and four six-month rotations, a possible sample of which is represented in the diagram below. You will work closely with experienced actuaries and business leaders during your rotations.



Development in the Graduate Program

AMP's Graduate Program is designed to help you acquire the technical and soft skills needed to accelerate your career. Apart from on the job experience and technical development, there is a structured graduate workshop program which brings together all graduates across the different business areas and is aimed at building your professional skills. In addition, graduates are offered quality coaching and mentoring by committed leaders in the Actuarial professional family. We also provide strong support for your further actuarial exams study.

Contact Details

Thomasin Schmidt, Talent consultant. (02) 9257 7885 or Thomasin_schmidt@amp.com.au

Please also visit our website to learn more www.amp.com.au/graduate

Support Network



Our Graduates participating in an Amazing Race during their induction program

Stories from our Graduates

Ada Wong (2016 Graduate)

The main reason I chose AMP was the vast range of opportunities and business areas on offer. As the biggest life insurer in Australia, AMP employs actuaries in a diverse range of different teams and business areas in addition to the more traditional actuarial disciplines of pricing and valuations. The longer program duration of 3 years also means grads get 5 meaningful rotations and longer to complete Part III studies before committing to a permanent role. As someone who had no idea what type of work and which business area I was interested in, the huge range of options was incredibly appealing.

Having worked at AMP for 9 months, I've also come to love the vibrant and supporting culture. Everybody is always happy to help and give advice on work, studies, career or just life in general. It's not just about work either! The multitude of social activities, Friday night drinks, celebrations, team event and graduate activities means there's always something to look forward to.

Avanti Patki (2015 Graduate)

Support, exposure and enjoyment are what the AMP Graduate Program is all about. In terms of support, I had access to a gamut of workshops on technical skills and soft skills, and instead of being left to fend for myself during my further actuarial study, I am able to join study groups facilitated by qualified actuaries to get help with my questions. With AMP's established rotation program and with each actuarial team having an array of meaningful work to challenge their graduates, I am able to gain exposure to numerous areas within life insurance in which actuaries can work. Lastly (and possibly most importantly!), the fun factor is ever-present – Friday night drinks, lunch time boxing and running clubs, evening netball, volunteering days, the annual amazing race and the grad Christmas party are just some events in a long list, made even better when surrounded by a group of likeminded, warm and friendly fellow-grads.

Contact Details

Thomasin Schmidt, Talent consultant. (02) 9257 7885 or Thomasin_schmidt@amp.com.au

Please also visit our website to learn more www.amp.com.au/graduate

Business Focus

Based in Melbourne, Cumpston Sarjeant is an independent Australian firm of consulting actuaries formed in 1996. The company consists of 4 actuaries, 4 analysts and 6 support staff. We provide actuarial advice largely in the areas of general insurance, court evidence, superannuation including SMSFs, employee leave liabilities, aged care and demographic and financial modelling. Our experience also enables us to peer review other actuaries' reports.

Because our actuaries have such a wide range of experience, we are able to provide advice in areas which are outside the mainstream. Our aims are to have interesting work to do, meet client expectations, increase our range of skills.

RECRUITMENT

Contact

Leah Mariani
Financial Controller
Cumpston Sarjeant
Level 13, 160 Queen St
Melbourne VIC 3000
Tel: 03 9642 2242
Fax: 03 9642 2254
E-mail: actuary@cumsar.com.au
Website: www.cumsar.com.au

Vacation Employment

Not provided.

Qualities & Attributes Sought

We seek employees who are flexible team players. Also good written and oral communication skills are essential, as you will be directly involved with clients, who expect clear precise advice. Expertise in spreadsheets and programming are also highly desirable.

Application Dates

There are no specific dates for recruitment, as it is on a needs basis. Any vacancies are advertised via our website, IAA, Seek & university websites.

ON THE JOB

Typical Career Path

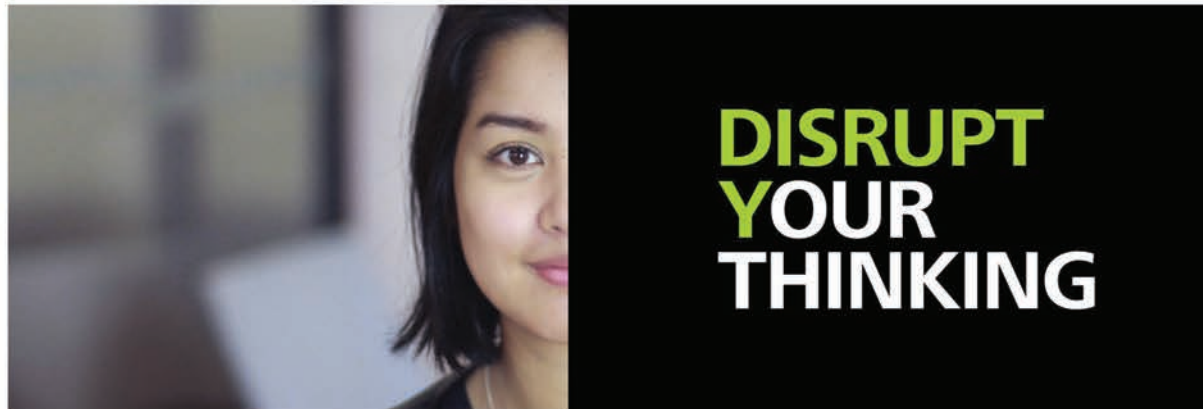
There is no typical career path. Graduates or trainees work closely with qualified actuaries on most jobs, including meetings with clients. Attempts are made to give a range of work to all staff. We encourage our staff to use and improve their professional training. This may mean helping our employees to obtain a qualification that they can use elsewhere.

Secondment Opportunities

No possibility at present.

Support towards actuarial qualification

We offer financial support for actuarial studies, and study leave. Our policies for helping and rewarding actuarial students broadly match general market conditions.



'I could only have done it at Deloitte'

We aim to inspire our people to achieve their potential. Our ongoing innovation combined with our commitment to a diverse and collaborative culture set us apart. You'll be joining a firm with a relentless drive and passion for world class client service and a sense of shared responsibility for our place in our local communities that matches your own.

What we do

We provide audit, tax, consulting, technology, risk management and financial advisory services through over 6,000 people throughout Australia and over 200,000 staff globally. Focused on the creation of value and growth, and known as an employer of choice for innovative human resources programs, we are dedicated to helping our clients and our people excel.

In 2015 we were awarded the Employers of Choice for Gender Equality award by the Workplace Gender Equality Agency (WGEA). Additionally we are proud to be named as one of Australia's 50 Most Innovative Companies 2015 by acclaimed publication Business Review Weekly (BRW), recognising the firm's commitment to innovation. Ranked at number #30 in 2015 (up from #46 in 2014), Deloitte was selected from over 500 entries, and is the only Big Four professional services firm on the list.

So step into your future with one of our programs especially for applicants who are still studying at university; our Graduate program, Summer Vacation program, or Deloitte Development Program.

<http://yourfuture.deloitte.com.au>



Join Banking and Capital Markets (Quantitative) Services

A clear view of the financial future

Are you looking for a challenging and rewarding career? Do you have a flair for innovative thinking and problem solving? Would you like to work with a team where no two days are the same?

Our Melbourne Banking & Capital Markets (Quantitative) Services team is part of our wider Actuarial Service practice. The team are involved in financial risk evaluation and modelling. Working for some of the largest institutions in Australia in the Banking and Capital Markets sector, they provide consulting services such as risk and Basel regulatory capital modelling for banks – credit risk, operational risk, market risk and liquidity – financial stress testing, derivatives valuations, and internal reviews of treasury and commodities trading and risk processes.

We tackle diverse and challenging projects for our clients. Developing excellent relationships and delivering effective business services requires professionals from many different subject areas – not just actuarial but mathematics, statistics, engineering, finance, law and economics as well.

One decision, a lifetime of opportunity

- ▶ Right from the outset, you'll be meeting clients and working on engagements. Our clients include major and regional banks, superannuation funds, energy and commodities companies and treasury departments in both public and private sectors. Gain unique access to the inner workings of the banking industry, and build your appreciation for how major corporations do business.
- ▶ As a subject matter professional, you will be encouraged to work autonomously and take on responsibilities. Bring your talent, enthusiasm and ideas and we'll support you with the right mix of learning, experiences and coaching.
- ▶ At EY, you are provided with an experienced mentor, chosen specifically to guide you along your career path. We have an extensive buddy and counselling program, designed to match your ambition and personal goals.

Connect with us and stay in touch

 ey.com/careers

 bit.ly/EYLinkedIn_CareersAUNZ

 facebook.com/eycareers

 instagram.com/eyaucareers



Meet our people
bit.ly/EYActuarial_Services



"I chose to work at EY in order to be part of an exciting global organisation that is focused on providing outstanding services to its clients and also its commitment to its professionals."

From day one on my EY journey, I have had the opportunity to work on interesting and challenging engagements with a variety of clients on a wide range of topics. This opportunity to constantly learn about new ideas and interesting approaches to problems is one of the best things EY allows you to do. Additionally, EY has been a constant support in my pursuit of further studies by helping to finance studies and allowing time for study allowing me to continue on my path to actuarial fellowship. I couldn't be happier to have started my career at EY with amazing opportunities and a great group of people to both learn from and have a laugh with."

Tom, Melbourne. On secondment with EY London





IAG Graduate Program

IAG offer roles in ANALYTICS (for graduates of Actuarial, Mathematics and other analytical degrees) and also TECHNOLOGY/DIGITAL LABS (for graduates of Design & User Experience, Software Engineering, and similar degrees).

ABOUT US

At IAG, we are working to create a safer, stronger and more confident tomorrow for our customers, partners, communities, shareholders and our people throughout the Asia Pacific region.

We are the largest general insurer in Australia and New Zealand, with a growing presence in Asia. Last year, we insured over \$2 trillion worth of assets, collected \$11.4 billion in premiums and paid out almost \$9 billion in claims. As a market leader, we keep our promises today, and plan for the future, so we can help make your world a safer place.

For generations, we've helped people and communities recover and rebuild from the impact of accident, loss and natural disasters. Our scale, experience and network allow us to be there for you when you need us, and to see further ahead to anticipate the challenges of tomorrow.

Across our company, we employ and provide career development opportunities to over 15,000 people. Our work environment focuses on fairness, diversity and inclusion to help us be closer, braver and faster.

Whatever you're looking for, we encourage you to register your details with IAG careers so that we can consider you for a whole range of different opportunities.

IAG Graduate Program

Our graduate program strategy means that we focus on equipping you with the skills and experience to succeed at Insurance Australia Group. We offer an 18 month program that provides you with:

- 18 months of structured rotations, allowing you to explore your options.
- Competitive base + 13% super + 10% Short Term Incentive + great benefits.
- A dedicated coach/mentor and a buddy for support throughout the program.
- Ability to work and liaise with senior managers including presenting a live business case proposal to the CEO!
- The security of knowing you are a fulltime, permanent IAG employee from day 1.

As part of the program, you will participate in courses, site visits, and key projects and will have exposure to senior management in your chosen field. As you progress through the program you will master multiple business skills including formal presentation, building and maintaining relationships, leading self and others, innovation and business acumen.

To find out more about working at IAG;

- follow us on Twitter@IAGCareers
- IAG Graduate Program Website:

Actuarial



Who we are

PwC Actuarial is one of the largest actuarial and financial risk consulting groups in the Asia-Pacific region, with over 50 qualified actuaries and 180 consultants located in Sydney, Melbourne, Perth, Auckland, Wellington and Shanghai. We are part of a strong global network of PwC actuaries with presence in North America, UK, France, and the Asia-Pacific.

What we offer you

- A greater **choice** of career opportunities, with **outstanding** career development opportunities
- **Varied** work experience, with **exposure** to real client work
- **Flexible** work practices
- Unrivalled **training** and development **support**
- Social and sporting **activities** and a great team **culture**

We offer a graduate program as well as a vacation internship program between December and February each year.

Where to now

Career Contact:

Kelly Lee
Phone: (03) 8603 0480
Email: kelly.a.lee@pwc.com

More about PwC Actuarial:

www.pwc.com.au/consulting/actuarial-analytics

Graduate & Vacation Applications

www.pwc.com.au/careers

Our work

PwC Actuarial specialises in the following areas:

General Insurance & Accident Compensation

- Integrated reserving, monitoring and pricing
- Risk and Capital Management
- Advice on the impacts of regulatory change
- Implementation of strategies for portfolio and claim management

Banking and Financial Services

- Wealth management / Unit pricing
- Credit and other risk management for banks
- Economic Capital
- Control failure investigations
- Life Insurance

Retirement Incomes and Investments

- Financial valuations and projections
- Traditional superannuation advice
- Strategic and investment advice
- Risk Management, Governance and Compliance

Health Actuarial

- Data analytics
- Policy, Governance and Regulatory Design
- Service and Capacity Planning
- Activity Based Funding

"What I seek in a workplace is somewhere that offers a range of opportunities for me to explore, and has amazing people that support me along the way. This is exactly what PwC provides. Since starting at PwC three years ago as a vacationer, I have worked on general insurance valuations for various accident compensation schemes, a statistical review of banks' capital models and a valuation of points breakage for a loyalty program.

PwC has a high-performing and supportive culture which has helped me to explore my passions while achieving a good work-study-life balance."

*- Lucy Feng
Graduate of the University of Melbourne, 2013*





consulting
actuaries
+ analytics
professionals

Taylor Fry

is looking for people
who are first rate
problem solvers.

**We like to think outside the box.
Our Principals are pioneers
in the industry.**

Taylor Fry Principal Alan Greenfield was the recipient of the 2015 Actuary of the Year award. This award recognises Taylor Fry's innovative use of actuarial techniques to help solve challenging public policy questions.

www.taylorfry.com.au/ourpeople/join-us

More Articles

ASS-MASS Carnival Games

The ASS Committee Experience

Q&A with a Grad

A word processing rite of passage

Reflections of an Internet Detoxer

Drumming and Polyrhythms

t=s

p+

86.5

x

250

I

%

y

2.1

3.2

z

5

340

n

\$

60

-q

e

ASS–MASS Carnival Games

The Carnival Games, held in August 2016, was the first joint event between the Actuarial Students' Society of the University of Melbourne and the Monash Actuarial Student Society. The aim of this event was to grow our members' networks as well as build a bond between the two societies. The collaboration between clubs also acted as preparation for the organisation of our next joint initiative, the Quantum Analytics Case Competition.



The event saw club members from all year levels come together to form mixed teams wherein they were required to cooperate in a variety of games, testing memory, balance, throwing accuracy, and teamwork. Games included ping pong toss, maze navigation, straw tower building, an egg and spoon race, and mental maths quizzes.



New friendships were formed throughout the course of the games and over a replenishing pizza lunch break. We hope that the connection between our societies will continue to be nurtured by future committees and anticipate the growth of a successful network of actuarial students and graduates.

Alexander Nguyen
Treasurer



The ASS Committee Experience

I joined the Actuarial Students' Society committee in my first year as one of the First Year Representatives. Since then, ASS has been a huge part of my university life, and I could not imagine what these three years would have been like had I not applied for the committee position. I have once said, "I see the ASS committee as my family", and it is true.

I still remember when I first heard of the Actuarial Students' Society. Amy (who was the Second Year Representative back then), came to our AMI lecture and told us about the Welcome Back Pizza Lunch. I met a few actuarial students at this event, and I was also told that ASS was recruiting. I have to admit that I was only keen on the pizza at the time. On the one hand, I didn't know much about the society, let alone want to be a part of the committee. I was also not confident enough. On the other hand, I wanted to get more involved and meet more people. Even with some encouragement from friends I was still slightly hesitant, but I ultimately submitted my application. I cannot describe how excited and grateful I was when I got that phone call from Saurav (the President at the time), and there started my three years of university life.

It wasn't until I became a committee member that I realised how much work the committee does to ensure that each event runs smoothly and that we offer our members the most informative and valuable experience: We aim to bridge the gap between actuarial students and sponsors; we try our best to provide members with the most updated and insightful information; we are constantly thinking of new ideas and ways to improve our society. In the past three years, we have introduced a number of new information sessions which have received very positive feedback from students and sponsors. We have also improved our social media platforms and website to stay connected with our members. In the first two years, I was involved in the organisation of our events. This year, as a member of the Executive team, I got to see what happened backstage.

From the administration of the society, to the execution of the events, I have really experienced how hard it is to run an organisation and present what we have presented each year.

We have also learned a lot from working with each other. I see dedication and professionalism in each and every one of us. We encountered some serious issues with this year's Trivia Night that almost forced us to call off the event. However, the committee was able to organise everything within three hours to make sure that we didn't let anyone down. Our committee members have displayed great dedication and commitment, and I am very fortunate to be able to work with such an amazing team. Everyone is very willing to help out whenever the need arises. Voices are heard and opinions are valued. We share our life with each other, and we have become very close friends. This is a group of lovely people who I will never forget no matter how many years pass.

I myself have grown so much during my three years of being on the committee. As the joke goes, "An introverted actuary stares at his own feet during a conversation, while an extroverted one stares at the other person's feet." Being an actuarial student, it is natural for us to be shy sometimes, and some committee experience can make up for it. It is a great way to work on your social skills and communication skills. I have changed the way I see things, the way I do things, and the way I work with people. I have also done many things for the first time: I experienced my first time doing lecture announcements, first time carrying six boxes of pizza at once, and first time attending a student summit. Now looking back at the past three years, I have grown to be a more confident and powerful person. It is so fulfilling and rewarding to see our membership base growing. The committee really is a great place to gain some skills that will be of use for the rest of your life and a place to realise your own vision.

Now that 2016 is coming to an end, so too will my years of being on the ASS committee. During the past three years, ASS has witnessed how I have become the person I am today, and I have witnessed how ASS has evolved to become a bigger and more reputable organisation. It is very sad and hard to have to say goodbye to the ASS committee, because it will always be a precious and valuable memory of mine. To the 2017 committee, I wish you all the best and every success in the future. To ASS, I hope you continue to grow in the years to come, and I wish to see you soon!

Catherine Huang
Vice President

Q&A with a Grad

This year, the Actuarial Students' Society was fortunate enough to have been able to contact Thilan Madawalage, a 2015 Actuarial Studies graduate from the University of Melbourne. Thilan is currently a graduate at Willis Towers Watson, and Subcommittee Officer Tishan Paranehewage was able to ask Thilan a few questions just to find out how he was settling into professional life.



Could you give us a bit of background about yourself? What did you do during university? When did you graduate? Why (and when) did you decide to pursue your current career path?

I graduated from Melbourne High School and decided to do a Bachelor of Commerce at the University of Melbourne in 2013. My major was Actuarial Studies, and I chose this because, at the time, it seemed like a career pathway that was most suitable given my interest in finance and mathematics.

Throughout first year, I became more interested in statistics and decided to do a Diploma in Mathematical Sciences specialising in Statistics and Stochastic Processes. I felt that this complemented my Actuarial major and helped me get a better understanding of some concepts. I graduated at the end of 2015 and started working as a graduate at Willis Towers Watson in February 2016. I was particularly interested in working in a consulting firm, and after completing Willis Towers Watson's summer vacation program at the end of my second year, I had no hesitations in accepting a graduate role in the Benefits team.

What are your hobbies and interests?

I enjoy following the AFL and cricket. I am a very passionate Essendon supporter who, like most, is looking forward to the year ahead. I also enjoy playing some cricket with friends whenever I get the chance; I think it is very important to balance work and studies with some time to do things you enjoy.

Students are always sceptical of how much of their study they'll use in the workforce — what has been your experience with this so far? Do you think what you have learnt in university will be helpful later on in your career as well?

I think the techniques you learn are very useful in the workplace. Whilst a lot of the theory you study may not be used directly, it is always good to have some background of the work that you do and why you are doing it. When working, there is a lot more programming involved, and in this sense it is something that will be very new to a number of students. However, the concepts that you learn at university are definitely important as they form the building blocks for a lot of this work.

I understand that you've graduated after three years of the Bachelor of Commerce instead of completing the Centre's four-year Honours program. What was your rationale behind this decision? Do you ever wish you had done Honours?

The main reason behind this decision was that I believed I would be able to progress further in my career by working in the industry as early as possible. The downside is that I will have to study for a bit longer, but I have felt that working has provided me with some useful insights that have helped me in my studies. I have thoroughly enjoyed my year so far as a graduate at Willis Towers Watson, so I have no regrets about not doing Honours.

A word processing rite of passage

Indict. Debris. Cocoa. How do you pronounce these words? How do you feel when people mispronounce these words in front of you? This is what I feel: a swelling sense of exaggerated pride that I have progressed from being somewhat of a fool (for the few seconds while my peers corrected me) to having the grand wisdom of correctly pronouncing these words, the spellings of which are clearly the result of someone with too much time (or too many letters) on his or her hand.

It is always laughable looking back at yourself when you were unaware and inexperienced, making basic mistakes or using clumsy methods which eventually you shed for good. Perhaps pronouncing words correctly is only a miniature example; it is simple for someone to correct you (possibly after some anticipated mockery) that the words are pronounced *indite*, *debree*, and *coco*. The next time you see these words, those five seconds of mockery will trigger the overwhelming urge to pronounce these words like the wiser person you have become. Or perhaps it will take a few more instances of cringing from your peers — eventually everyone gets there.

Now what is your impression of LaTeX? Incidentally, *LaTeX* is not pronounced like the common noun *latex* either; the correct pronunciation is *lay-tek* (hopefully I have just saved you five seconds of potential embarrassment).

For those who are not familiar with LaTeX, it is a piece of software, or rather, a suite of software parts, that is used to prepare documents. At its core is the typesetting system TeX (pronounced *tek*), which could justifiably be regarded as a revolution in typesetting. LaTeX is particularly used in scientific research papers, notably in mathematics, physics, and sometimes computer science. As an actuarial student, you have definitely seen documents produced with LaTeX before. The signature hallmark of a LaTeX document is none other than the default typeface, Computer Modern (or Latin Modern nowadays):

As the harmonic series $\sum_{n=1}^{\infty} \frac{1}{n}$ diverges to infinity, the communicating class of growth-enabling states

$$G = \{g_1, g_2, \dots, g_n\} \subseteq S$$

is positive recurrent only when $s = 0$, i.e. toys are fully put away. For $s > 0$, the inter-arrival times have unbounded expectation, and thus SLLN does not apply. It follows that if $s > 0$, there is no finite time horizon within which growth is guaranteed.

This should be all but too familiar; for maths and actuarial subjects, it is used in essentially everything: assignment sheets, lecture slides, exam papers, tutorial sheets — all of these are typically prepared using the LaTeX system.

My own impression of LaTeX is very similar to my impression of mathematics: utter adoration. In fact, I believe my mind has associated LaTeX too strongly with mathematics for my opinion of it to stray from the same state of awe in which I regard mathematics. Having clarified the psychological bias, LaTeX has several tangible advantages over something like Microsoft Word, and ever since I began my word processing journey into LaTeX, I have found it extremely difficult to take seriously the mathematical text produced with the Cambria Math typeface in Microsoft Word. For me, LaTeX is the word processing counterpart of pronouncing words correctly, and nowadays I do almost feel that the years I spent using Microsoft Word were my blunder years.

Everyone's journey with word processing starts somewhere. In primary school, unleashing the attention span of a five-year-old upon Microsoft Word would almost surely result in Comic Sans writing and various exuberant WordArt headings scattered across the page, all masterfully performed under the supervision of our favourite virtual paperclip Clippy. A few years later, the WordArt disappears. Perhaps the typeface is still changing unstably: sometimes Comic Sans, Old English Text, Impact, but never Times New Roman, because that was far too mature for primary school work.

Eventually the work becomes serious in high school, and the typeface converges towards either Times New Roman or the newly adopted Calibri. At some point (hopefully), the high school student discovers styles in Microsoft Word and finally stops applying the tacky bold formatting and manually enlarged font sizes for headings.

An actuarial student at the University of Melbourne does not have too many essay-based assignments before Honours (please do not mention *Organisational Behaviour*), and for mathematical problem-based assignments the student is limited to either handwriting or typing them, most likely in Microsoft Word. At this point most actuarial students' word processing journey plateaus, and few will encounter further developments even once employment begins.

But there is so much more to see.

A system like LaTeX does not become the publishing norm in entire fields of studies without very good reason. From what I can see, LaTeX has achieved this status because of two major qualities: robustness and extensibility. A LaTeX file can be stored away, opened 20 years later, and still end up exactly the same. In fact, Donald Knuth, the original creator of TeX, is so confident about the stability of TeX that monetary rewards are offered for bug reports. The inner mechanics of LaTeX are also fairly transparent, allowing anyone with a bit of dedication to add new functionality to LaTeX, and who better to do so than a research community?

Perhaps not all of us are looking for shelf life or extravagant formatting capability in our maths and actuarial assignments, so what exactly is compelling about using LaTeX as an undergraduate actuarial student?

Firstly, your LaTeX documents will look much more professional than those prepared otherwise, largely due to the typesetting capabilities of TeX.

Mathematical equations simply look clumsier when produced through other means; in LaTeX there are all sorts of small spacing adjustments and size adjustments made automatically in the background. These spacing adjustments are also performed when LaTeX arranges normal text on a page. For example, in Microsoft Word, a last page with a single line on it always looks terrible, but LaTeX would try to change the line spacing throughout the document slightly to prevent these situations from happening. Even within words, LaTeX has algorithms to adjust spacing between characters, which is called *kerning*. Such features may seem of minor importance at first, but do be aware that small things like kerning are, rather unexpectedly, primary concerns when publishing text or posters; you have likely overlooked these aspects due to their unspoken prevalence in professional publications.

Moreover, all your lecturers are used to reading LaTeX-produced documents. It is usually remarkably simple to identify whether a document has been produced in LaTeX. Apart from its signature typeface, features for equation formatting (such as numbering or multiple alignment points), diagram drawing, and citation management are all mostly unique to the LaTeX system. Not only does this contribute to the professional appearance of your document, but it also addresses the expectations of your lecturer for mathematical text that have been built up over many years of being in the research community. What could possibly speak more about your academic dedication than the fact that you have produced your assignment using the very system used by academics themselves to produce research papers?

Using LaTeX is also somewhat of an exercise in programmatic thinking. I am personally of the firm belief that all actuarial students should have some experience in programming or scripting, if only for the fact that you will be required to have some for *Statistics* in second year, *Actuarial Statistics* in third year, and perhaps some other Microsoft Excel assignments throughout the degree.

Reflections of an Internet Detoxer

The type of thinking that you will employ to efficiently produce a LaTeX document is the same as that required to create an efficient computer algorithm. This is, perhaps unsurprisingly, beneficial to your more general analytic thinking ability, although I am certainly not suggesting that using LaTeX will make you significantly more intelligent.

In case you are considering the Actuarial Studies Honours program, where either a single research essay or three research projects are compulsory, starting to use LaTeX earlier rather than later will put you in a better position when the time comes for your research report to be written. At that point, you are essentially producing original research (or at least the equivalent for an Honours student), and while lecturers may clarify that there is no advantage in marks in using LaTeX, personally I think it somewhat silly to be producing research without LaTeX. If you are writing the research essay in particular, I think you are doing yourself a great disservice by avoiding LaTeX.

What is perhaps also important (in spirit) is that LaTeX is completely free; the same cannot be said for Microsoft Office, although I am hesitant to comment on how many people are affected by the price.

Dedicate some time towards learning LaTeX, and eventually you will be producing beautiful documents and hopefully beautiful mathematics to go with it. Personally I promised myself that I would be too lazy to handwrite my *Statistics* assignments in second year, which forced me to learn LaTeX (I thought the mathematical symbols produced in Microsoft Word were hideous). That seems to be somewhat of a unique journey — I think it requires a special kind of stubbornness to pull that off.

Nevertheless, LaTeX will remain capable of producing magnificent documents with or without you, but perhaps one day you will come back and embrace LaTeX for the next phase in your word processing journey.

Patrick He
Education Officer

Two years ago, when I first came to Melbourne, my rental contract presented an option to have internet for \$20 a week. It was quite the rip-off, so I unchecked the box, thinking that I would just live under a rock for a few weeks before getting connected by an external provider. At that time, I would never have guessed that this was the start of 20 months (and counting) of my internet detox journey. Every week, I spend at least one day with no internet at all as a way to unwind and be more mindful. This single experience has taught me so much about the value of controlling your environment and the amount of noise you may experience without noticing. I will share with you the three most valuable (and surprising) perspectives I have picked up along my journey. These reflections are indirectly caused by my experience and extend well beyond the common and obvious benefits of staying offline such as being more focussed, peaceful, and productive. This is a unique perspective into the world of mindfulness and self-awareness!

1. Thinking about improving yourself? Control your environment!

We are all on a journey to constantly improve ourselves professionally and personally. As young adults, we are accountable for our own progress and we must muster the drive to push ourselves on a continual basis. However, it is extremely difficult to intrinsically persist by yourself in the long run. Often you don't see any immediate payoffs, and the effort becomes all too much. Sometimes you just feel like you need an external push to keep you on track. When we were children, we were always guided by a helping hand, always spoon-fed what to do and always motivated by being accountable to our teachers and parents. But we are adults now. No one should be spoon-feeding us a passion for self-improvement. The last resort for us to obtain a feeling of external pressure is our environment; control it so you can be guided and motivated on a consistent basis.

My perspective on living without internet is that it keeps the distraction and noise in my environment under control. It is not just a lifestyle choice but a guiding hand to always keep me on track. Every time I instinctively click on Facebook (and realise I can't actually get on), I am reminded that I am losing focus. Like being guided and spoon-fed in high school, controlling your environment is a great way to stop your mind wandering and rather let it focus on the important goals you have set yourself. (It's okay if you don't want to go without internet — a big timetable or a website blocking app will also do the trick. =))

2. Are you on autopilot?

A common term in meditation and mindfulness is the idea of autopilot, when someone is just cruising through life doing habitual things every day and eventually giving way to their subconscious. As actuarial students with heavy workloads and hectic schedules, we are very prone to being on autopilot; just studying, working, sleeping, studying, working, sleeping. The sensation of being on autopilot is best described as the feeling that time is passing without you noticing anything new or exciting. When it's Week 5 in the semester and you can't believe it seemed like Week 2 had just passed, you know you are just cruising through days. Everything is too cyclical and boring when you are on autopilot, and engaging in mindfulness exercises is the best way to reflect better and make the most of your precious time!

Obviously, being offline once a week has made me just sit back, relax, and reflect on what I do every week. It has also made me find gaps in my lifestyle such as the lack of regular exercise, which motivated me to make a futsal team! For those who think mindfulness and medication is too extreme, I suggest writing down the most interesting things you have done every week and reading them later. You will be surprised on how you become more aware of your surroundings and your lifestyle!

3. Why you can't multitask as well as you think

During my internet detox, I was extremely focussed on the tasks I set myself, solely because I physically did not have a way to procrastinate or multitask. You realise the flaws of multitasking after having experience in controlling your environment well enough that you can only do one task. Doing many things at once is very useful for repetitive meaningless tasks like washing up or doing the weekly grocery shopping. This is because these types of menial exercises have a limit on how well they can be carried out. However, when it comes to self-improvement, there is no ceiling and no limit on how much you can learn and develop your character. We have so much we can do or learn to really improve ourselves or just make us happier.

As there is no limit to self-improvement, multitasking will lead to you losing the desire to challenge yourself. The main idea of multitasking is that you can get as many things out of the way as possible. This mentality closes you off from potential opportunities that can enhance your life and extends far beyond just studying and working.

Further ideas to get you into mindfulness (tried and tested!)

- Study with pen and paper (you will be mindful of what you write down)
- Study outdoors with pen and paper (alfresco is always the best)
- Go for a run or bike ride
- Play a new sport
- Cook by yourself
- Go to meetup.com and talk to new people every month

Max Yang
Subcommittee Officer

Drumming and Polyrhythms

As I enter my second semester of third year, the workload is becoming quite a beast. Surviving burnout is becoming more of an issue, as the monotonous formulae of *Contingencies* and the vast number of definitions from *Actuarial Statistics* become quite overwhelming. I have noticed it is becoming more and more important to maintain a number of hobbies to provide relief from the stresses of studying.

Different students have their own unique set of hobbies and activities they fall back on, whether it is street fighter or playing sports or watching movies. Each set may not be disjoint, and they are certainly not exhaustive. In this article, I talk about one of my passions in life: drumming.

Percussion appears in all sorts of music in many different forms, whether it is the standard cymbal crash from a Broadway musical or the iconic cannon shot from the *1812 Overture*. It is a common joke in mainstream culture that drummers are mainly brainless slobbers. However, there is much more to percussion than mindlessly hitting objects together. As percussion is mainly used to set the rhythmic basis on which the rest of the song is based, there is a large set of (unspoken) rules one must follow. One may also find many links between rhythm and mathematics. We will mainly be focussing on a small class of rhythms known as polyrhythms.

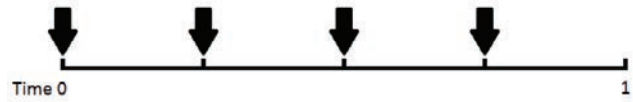
A polyrhythm is a passage that contains multiple different rhythms in it, typically seen in Latin-style music. Experienced drummers are able to play polyrhythms with all four of their limbs. However, here we deal with a very simple case. Before that, we must cover some definitions.

Definition. A *semibreve* is a note of a fixed length (dependent on the tempo).

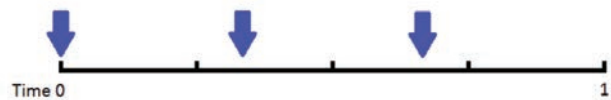
Definition. A *crotchet* is a note that is a quarter of the length of a semibreve.

Definition. A *triplet* is a note that is a third of the length of a semibreve.

To begin with, imagine playing crotchets in a bar of $4/4$ time (i.e. the bar has a length of a semibreve). To assist in your visualisation, we will use timelines in the same style as many actuarial subjects.

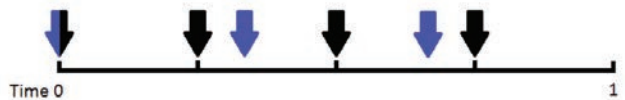


A unit length of time (from 0 to 1) represents a bar in our hypothetical exercise. Each tick in the timeline represents a "pulse" in the music. If you wanted to relate this to a normal calendar timeline, you can think of an annuity paid in advance every three months. Now imagine playing triplets in a bar of $4/4$ time:



which, referring back to actuarial notation, could relate to an annuity paid in advance every four months.

With enough practice you should be able to play both of these rhythms at the exact same time with different hands, leading to the following pattern:



Now try with your left foot and right hand as well as your right foot and right hand. Try swapping the roles of the two limbs after each iteration of the polyrhythm. Not so easy, is it? If you can repeat the above passage as time approaches infinity, then you are one step closer to becoming a percussion genius!

After that brief introduction with polyrhythms, you should now be able to solve the following maths question: if someone were to play crotchets (" $1/4$ " notes) with their left hand and triplets (" $1/3$ " notes) with their right hand for 100 bars (each bar having the length of one semibreve), how many times would they hit their drum with both of their hands at the **exact same time**?

The answer is quite simple. It is **zero** times, because the time that one hits their drum has a continuous distribution, meaning that they will (almost surely) never hit their drum with both their hands at the exact same time (however, in theory, this would occur 100 times).

All in all, it pays to take a break from work and study to do something relaxing and have fun. Becoming burnt out is terrible!

David Kwak
Third Year Representative



Vision 2016 is proudly sponsored by

Gold Sponsors



Educational Institutes



Silver Sponsors



Bronze Sponsors



The Actuarial Students' Society would like to thank them for their ongoing support, and look forward to sustaining and promoting a healthy relationship between our members and sponsors.