



ANÉA - ASNA | SUMMER 2011 ISSUE

# THE REINVENTED *actuary*

ASSOCIATION NATIONALE DES ÉTUDIANTS EN ACTUARIAT  
ACTUARIAL STUDENTS' NATIONAL ASSOCIATION

## A Letter from the President:

L'Association Nationale des Étudiants en Actuariat est fantastique. This year, as with the past 22 years, our team of motivated students will work to bring actuarial students and employers throughout Canada together. Building upon a now long lasting tradition, 2011-2012 will be another high-water mark. (Pun intended, as you shall see.) With the January 2012 convention as its focal point, this year will be a busy one indeed with continued updates to the education section and company profiles on our website, as well as the publication of our newsletter, in which I'm honoured to write. I would also advise the readers to check out our website, which is about to change dramatically.

In a break from past conventions, where the event would be held in the host University's hometown, the team at University of Western Ontario will welcome all attendees at beautiful Niagara Falls. Led by Rick Balgobin, the 2011-2012 convention committee is already bound for success with such a stunning natural backdrop to the event. As President for the ongoing term, it will be my responsibility to assist him and many more motivated ASNA members, as we all prepare to welcome hundreds of our fellow students during the first few days of 2012. One of our important goals this year will be to guarantee that the convention appeals to all students, through a variety of interesting topics, but also varying degrees of technicality. You will learn something new about actuarial science, whether or not Kaplan-Meier estimation is among your skills. And as always, the convention will be the ideal place to meet new people, students and employers, for three days of celebration. It will be a pleasure to meet all of you in January, and until then, best of luck in your actuarial endeavors.

Sincerely,

**Simon Provencher**

President, Actuarial Students' National Association (ASNA)  
[president@anea-asna.ca](mailto:president@anea-asna.ca)

*Simon is a 3<sup>rd</sup> year student from Laval University, in Québec City. He was our VP Publicity and VP Québec for ASNA in the past year. He has experience in corporate actuarial and group reinsurance work. Since he is a native French speaker, he has said to expect most events this year to be in "Molière's favoured language." He's kidding—I hope! Any ASNA related questions can be directed to Simon, via e-mail ([president@anea-asna.ca](mailto:president@anea-asna.ca)).*

## You have 1 Unread Message (from your Newsletter Editor!)

Hello everyone, and welcome to our **2011 Summer Issue** for ASNA! We are really excited about this year because we've implemented some changes -- for your benefit. So what's new? Our E-Newsletters will now be published **quarterly**. This will give you quarter-to-date news, and will ensure that you're aware of the main things happening in the actuarial world. We've also increased the variation of topics in our newsletter, and added more color to make it easier to read and more aesthetically pleasing to the eye. Also, starting Fall there will always be a great Feature from an actuary in an **AVP level** or above. We would *love* your comments and suggestions on this issue, so please e-mail [uwasna2012@gmail.com](mailto:uwasna2012@gmail.com).

Our Newsletter Committee (Jon Lim, Claire Liu, Anson Lo, Ritika Bhargava, and myself) is constantly working hard to provide you with the most interesting and relevant actuarial info. We hope you have as much fun reading it as we had making it.

Happy reading!

**Manisha Dias**

Newsletter Editor; ASNA 'Future Actuary'  
Actuarial Students' National Association

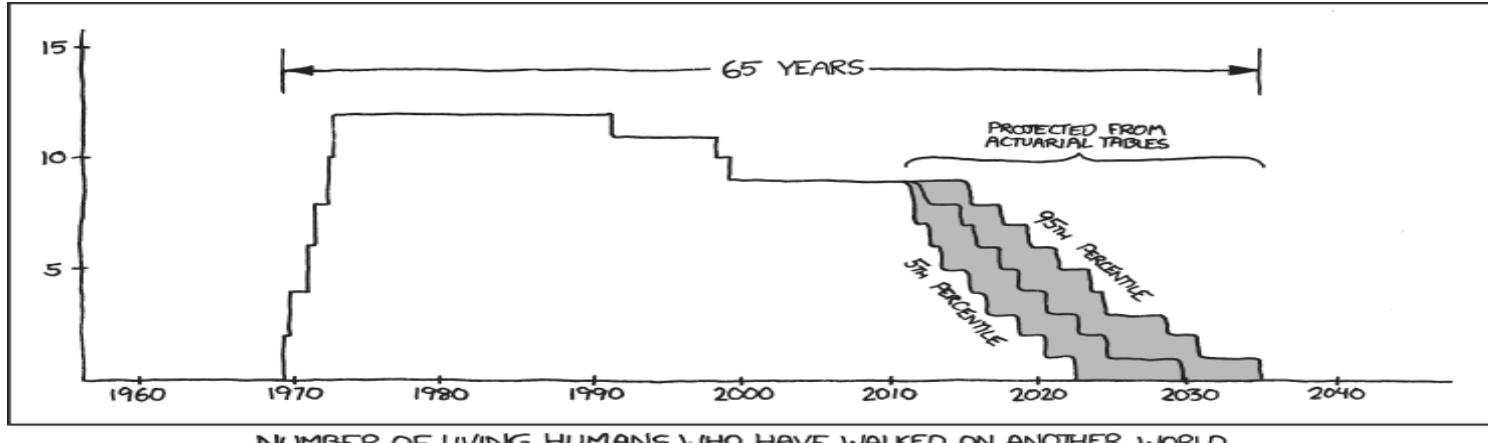
HYPOTHETICALLY,  
WOULD ANYONE  
KNOW THE DIFFERENCE  
IF I JUST MADE UP  
THE NUMBERS?

We asked some of our actuarial and non-actuarial readers what their definition of an “Actuary” was. Let’s see what they had to say!



## “WHAT IS AN ACTUARY?”

Actuarial Background	Non-Actuarial Background
They analyze risks and finance and determine how much to charge for premiums.	Someone that involves money and math.
They are “the study of insurance.”	People who do the calculations behind insurance policies.
A person that uses math to mitigate risks for insurance companies.	Someone that needs to do lot of math and stats and makes lots of money.
They work in traditional life insurance companies to create and maintain life insurance and pension products.	Salesmen or brokers for insurance companies. <i>(really...?)</i>
An actuary’s job is to evaluate risk and ensure that a company remains competitive and solvent by setting premiums that are sufficient, but not excessive.	An actuary deals with complex math equations and is able to tell someone how much his or her life is worth.
An actuary works in traditional insurance areas in pricing and valuation, but also now tends to be involved in non-traditional roles such as asset-liability management and corporate risk management.	An actuary writes several exams outside of school and usually works in insurance companies.
People with jobs which are ranked among the Top 10 in the world.	An accountant who earns \$25,000 more.
Experts in the field of asset liability management and financial risk management.	Someone who takes a cheap guess and calls it an expensive opinion.
An actuary is a ‘baller’ that has the shoes, the clothes, the car, and the <b>financial calculator</b> .	People that deal with life insurance, doing math related to calculating insurance and intangible things (a person’s life, or an idea).
An actuary is in charge of dealing with the significant numbers/values that people without a designation shouldn’t touch.	An actuary is a tree that grows money. When you shake it, money falls down.





# What Is All The Commotion About Pensions?

In recent years, debates have arisen regarding the future of actuaries in the pension consulting field. Some pension actuaries have left the field in favour of other actuarial areas, while others have argued the creative opportunities available to create new pension plans that are more relevant and sustainable for the future.

First and foremost, pension consulting is its own field. You cannot directly compare pension consulting, to, for example, insurance. Although they are both actuarial areas, the choice of your career path ultimately depends on your preference. It is important to develop an understanding of the products and skills involved in the area you would like to pursue.

Pension consulting is a field with significant client and human interaction. Many clients are multi-national corporations; this results in more potential travel opportunities. As well, the work involved is more project-based requiring strong teamwork skills. The working hours will depend on the length of time it takes to complete a project, rather than being fixed. In regards to the type of work, pension actuaries generally focus on the valuation of pensions. Increasingly, they are becoming involved in accounting-based issues and other non-traditional actuarial work.

The above can be contrasted with working in a particular business unit at an insurance firm. Communication with other departments and clients is usually minimal or non-existent. The hours are generally fixed. While most will find themselves starting off in a particular area (such as pricing, reserving, or product development), there are often great rotational opportunities to learn more in another area.

The root of the pension consulting debate requires some background on different types of pensions. There are Defined-Benefit (DB) plans and Defined-Contribution (DC) plans. DB plans provide the member with a guaranteed monthly pension often based on service and sometimes earnings. DB plans, however, are expensive and volatile so there is a lot of risk on the investment of assets for plan sponsors. On the contrary, DC plans are stable and have minimal risks. At retirement, the member receives the accumulated account balance that is used to purchase an annuity or put into retirement accounts that have minimum and maximum withdrawal amounts each year. The issue with DC plans is that the member is unsure of what kind of annuity can be purchased with the account balance. The retirement income is thus unknown until retirement. The risk of having sufficient funds is shifted from the employer to the employee from a DB plan to a DC plan.

There are several issues and costs associated with regulatory and accounting requirements for DB plans. During the financial crisis, DB businesses were hit hard due to their volatility. DC businesses on the other hand were not as impacted due to the employees bearing the risk. Since then, there has been a movement from DB to DC to control costs and risks involved with their businesses. The majority of businesses are DC with the exception of a few old businesses which have not yet converted over. So, what is the issue? Actuaries work with DBs, not DCs. With DB business becoming more obsolete, in terms of pensions, there may no longer be a demand for actuaries.

On the bright side, employers could change DB to Cash-Balance (Cash-Balance is like DC but is classified under DB). Ontario Teachers' Pension Plan (OTPP) and unions are also classified under DBs. Other than pensions, actuaries can also work on plan design, workforce management (asset management for DB and DC), etc.

As an actuary, you will have skills that can be applied to consulting, insurance, reinsurance, P&C, and even non-traditional areas. Therefore, you are not limited to one area and have many options to choose from depending on your personal preference. It is best to research the advantages and disadvantages of each area so that you make an appropriate choice for your career!.





**ACTUARY** has been ranked once again, as one of the top 10 jobs in America. The Wall Street Journal has ranked jobs based on data collected by the U.S. Bureau of Labour Statistics and the Census Bureau and has ranked Actuary as the second best job in America. CareerCast.com ranked Actuary as the third best job in America derived from the following five criteria: working environment, salary, hiring prospects, and stress.

<http://online.wsj.com/article/SB123119236117055127.html>

Thus, being an actuary can guarantee you a good working environment and decent income! Other top jobs include mathematician, software engineer, statistician, etc.

### The Best and Worst Jobs

Of 200 Jobs studied, these came out on top -- and at the bottom:

The Best	The Worst
1. Mathematician	200. Lumberjack
2. Actuary	199. Dairy Farmer
3. Statistician	198. Taxi Driver
4. Biologist	197. Seaman
5. Software Engineer	196. EMT
6. Computer Systems Analyst	195. Roofer
7. Historian	194. Garbage Collector
8. Sociologist	193. Welder
9. Industrial Designer	192. Roustabout
10. Accountant	191. Ironworker
11. Economist	190. Construction Worker
12. Philosopher	189. Mail Carrier
13. Physicist	188. Sheet Metal Worker
14. Parole Officer	187. Auto Mechanic
15. Meteorologist	186. Butcher
16. Medical Laboratory Technician	185. Nuclear Decontamination Tech
17. Paralegal Assistant	184. Nurse (LN)
18. Computer Programmer	183. Painter
19. Motion Picture Editor	182. Child Care Worker
20. Astronomer	181. Firefighter



## Reflections from a Past ASNA President:

My role as ASNA president last year was definitely a great, **eye-opening experience**.

My duties included managing the 13 universities which make up the association and ensuring that all of the association's committees operated smoothly.

My main role was collaborating with other executives in organizing the annual ASNA convention. The Convention is always hosted by one of the member universities and provides an opportunity for students and professionals to network and learn more about the challenges and rewards of the actuarial profession. The non-hosting universities are each in charge of subcommittee (i.e. Finance, Education, Expansion, Newsletter, Website, etc). During the convention we also host the largest actuarial career fair in the country, and this has provided numerous students (like me!) internships and full time job opportunities. This past year it was in the beautiful **London, Ontario** — and it was quite the event!

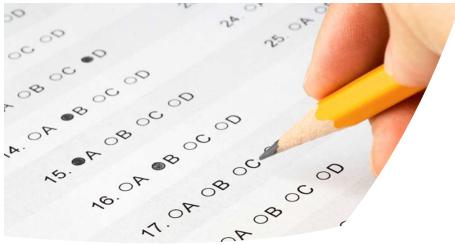
Some of the behind the scenes work for the Convention includes contacting and gathering sponsors and speakers, figuring out what sort of food, games and activities people will enjoy.

In brief, my role has provided me with an opportunity to learn and understand more about the career path I've chosen. The work I've done has taught me a lot about myself, my strengths and weaknesses, as well as given me the chance to meet a lot of great people — some of which will remain lifelong friends. I am definitely excited for what life as an actuary holds in store for me post-ASNA.

**Femi Olamijulo**

Past ASNA President, 2010/2011

# Exam MLC: Actuarial Models - Life Contingencies Segment Modified Learning Objectives



SOA has decided to revise its exam syllabus for the MLC exam commencing Spring 2012. In addition to traditional life insurance products, candidates can expect to see increased focus on universal life insurance, variable and equity-indexed annuity products. The changes are summarized below.

## 1. Increased emphasis on multi-state transition models

- For the multi-state decrement model:
  - Describe the model, how it is a general model for decrements, and how it can be applied to multiple decrements on multiple lives
  - Define the model as a stochastic process
  - Describe how the single decrement on single life models, multiple decrements on single life models, and single decrement on multiple lives models can be represented as multi-state models

## 2. Increased emphasis on discrete cash flow models

- For single decrement on single life models and multiple decrements on single life models:
  - Calculate level net (benefit) premiums for life insurances for fully discrete with annual or monthly premiums
- For Markov chain models:
  - Calculate the net (benefit) premium reserves for a continuous-time Markov chain model with specified discrete and/or continuous cash flows payable while in each state and upon transition between states using (I) the prospective method, and (II) by solving Thiele's differential equation using discrete steps, including the multiple life model and the multiple decrement model

## 3. Inclusion of interest sensitive product cash flow models

- For fixed interest rates (level or varying over time); yield curves (spot and forward interest rates); and interest rate scenarios models:
  - Describe the models
  - Calculate present values and accumulated values

## 4. Removal of Poisson processes

The last substantial change to the MLC exam syllabus was in 1986. It remains to be seen whether this change will adequately equip students for current industry-accepted theory and practice. For more information, visit the SOA website at <http://www.soa.org/education/exam-req/edu-exam-m-detail.aspx>.

## EXAM MLC Frequently Asked Questions



### What is it?

A 3-hour multiple choice examination which will develop the candidate's knowledge of the theoretical basis of certain actuarial models and the application of those models to insurance and other financial risks.

### How often is it offered?

Twice a year, once in May and once in November.

### How much does it cost?

\$240 for students, \$300 for everyone else.

### Do I have to take MLC before MFE?

There are no restrictions to the order of exam completion.

### Where can I find the full syllabus for the Spring 2012 offering of the MLC exam?

<http://www.soa.org/files/pdf/edu-mlc-learning-objective.pdf>

For more information, visit the SOA website at <http://www.soa.org/education/exam-req/edu-exam-m-detail.aspx>



# Fellowship Requirements — EXPOSED

Did you know that actuarial exams differ after Exam 4/C depending on whether you pursue an FSA or FCAS designation? Did you know that there are 5 tracks, all of which lead to an FSA designation? Often times, actuarial students are so focused on the preliminary exams that they do not know what to anticipate after becoming an Associate. It is always important to look forward. Whether you are someone who is sure about becoming an actuary or someone who is still deciding, knowing your options helps you make an informed decision and allows you to plan out your exam/module-taking schedule.

Upon completion of Associate requirements, there are five **FSA (Fellowship of the Society of Actuaries)** tracks to select from. Each of these tracks requires the completion of 2 additional exams and 3 modules. The tracks and their respective requirements are seen below:

Finance/ERM Track	Investment Track	Individual Life & Annuities Track	Retirement Benefits Track	Group & Health Track
Advanced Finance/ERM Exam	Advanced Portfolio Management Exam	Individual Life & Annuities Company/Sponsor Perspective (CSP) Exam	Retirement Benefits Company/Sponsor Perspective (CSP) Exam	Group & Health Company Sponsor Perspective (CSP) Exam
Financial Economic Theory & Engineering Exam	Financial Economic Theory & Engineering Exam	Individual Life & Annuities Design and Pricing (DP) Exam	Retirement Benefits Design and Pricing (DP) Exam	Group & Health Design and Pricing (DP) Exam
Financial and Health Economics Module	Financial and Health Economics Module	Financial and Health Economics Module	Financial and Health Economics Module	Financial and Health Economics Module
Financial Reporting Module	Investment Strategy Module	Regulation & Taxation Module	Social insurance Module	Health Foundations Module
Operational Risk Module	Operational Risk Module or Financial Reporting Module	Operational Risk Module or Financial Reporting Module	Operational Risk Module or Investment Strategy Module	Pricing, Reserving & Forecasting Module
Decision Making and Communication Module (DMAC)				
Fellowship Admissions Course (FAC)				

Effective July 1, 2013, there will be changes to the above requirements. Starting on that date, there will be **three** FSA-level exams. An ERM (Enterprise Risk Management) exam will be offered as an exam choice for all tracks. The completion of the ERM exam will result in both FSA and CERA (Chartered Enterprise Risk Analyst) designations. The SOA has recognized the importance of enterprise risk management skills and has decided to make the CERA designation more accessible for FSA candidates.

The above has described the FSA requirements; however, you may choose to pursue the **FCAS (Fellowship of the Casualty Actuarial Society)** designation that focuses on property and casualty insurance. Requirements for the FCAS include the same preliminary exams, with 5 additional exams, 2 modules, and a professionalism course.



This article provides a glimpse of what to expect in the future when pursuing your actuarial career. There are constant changes to the examination structure and requirements, so there is no guarantee that what is described above will still be applicable when you obtain your Fellowship. However, this information does give you a sense of how preliminary exams are only the beginning, and there is much more that lies ahead in becoming an actuary!



## Qualifications for Actuaries

There are certain qualities required for becoming a successful actuary. These are also the qualities that top insurance companies are looking for in their candidates .

The following are some of the most important ones- **technical skills** in red and **soft skills** in blue.

- **Problem solving skills and analytical thinking**- manage financial models and produce results
- **Time management skills**-ability to work under tight time line
- **Team player** -ability to work in a team environment where the priorities and requirements change quickly
- **Leadership qualities**- to inspire and motivate others to achieve results
- **Communication skills**-the ability to effectively present issues, options and recommendations to both actuarial and non-actuarial audiences
- **Organizational skills** and attention to details
- **Persistence** –never give up on your exams or career
- **Microsoft Office** (especially excellent working knowledge of excel , MS Access)
- **Actuary Software GGY AXIS** is an asset
- Actively and successfully pursuing **SOA exams**; have a strong commitment to attain their **FSA and FCIA designation** in a timely manner



**AT FIRST** we just needed university education and an exam to get a job/internship. Now, that won't even cut us a volunteer position. Today's competitive world has made the actuarial student have to embody the *ultimate package* to stay on par with everyone else. You not only need exams and an education, but you must now possess leadership ability, innovative thinking, work experience, and a high GPA.

Actuaries have been **reinvented** to not only be the most knowledgeable people in their field, but also the people that can be the major liaison with clients, conduct presentations to management, and also be someone that can move between technical and non-technical audiences without any issues.

This has been the motivation behind our newsletter title (thank you Jon for the great idea)!

# Top Actuarial Sites

## The Best Actuarial Sites on the Web

<b><u>Be an actuary:</u></b> <a href="http://beanactuary.org">beanactuary.org</a>	 <p>Site from the Casualty Actuarial Society and Society of Actuaries devoted entirely to those interested in the actuarial profession. It also focuses from an actuary student perspective. Useful information on SOA Exams can also be found on the website.</p>
<b><u>actuary.com:</u></b> <a href="http://actuary.com">actuary.com</a>	 <p>Great resource for <u>actuarial jobs</u>, <u>Actuarial science information</u>, <u>actuarial recruiter directory</u>; also content extensive information on the actuarial field, including tables, jobs, statistical research, and discussion forums.</p>
<b><u>SOA - society of actuaries:</u></b> <a href="http://soa.org">soa.org</a>	 <p>SOA is an educational, research and professional membership organization for actuaries in the US and Canada. The website is useful for checking Actuary news, opportunities and Actuary exam information.</p>
<b><u>Actuarial outpost :</u></b> <a href="http://actuarialoutpost.com">actuarialoutpost.com</a>	 <p><u>Actuary forum</u>, <u>wiki &amp; blogs for actuary exams</u>, <u>actuarial science</u>, <u>discussion forums</u>, free downloads for students, and job postings.</p>
<b><u>Dw simpson:</u></b> <a href="http://dwsimpson.com">dwsimpson.com</a>	 <p>Actuary jobs from the top worldwide actuarial recruitment firm, in all actuary disciplines from entry-level through fellowship, chief executives. It also provides detailed salary survey of different fields in actuary science.</p>
<b><u>Actuarial bookstore:</u></b> <a href="http://actuarialbookstore.com">actuarialbookstore.com</a>	 <p>Mail order bookstore specializing in study materials for actuaries worldwide.</p>



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