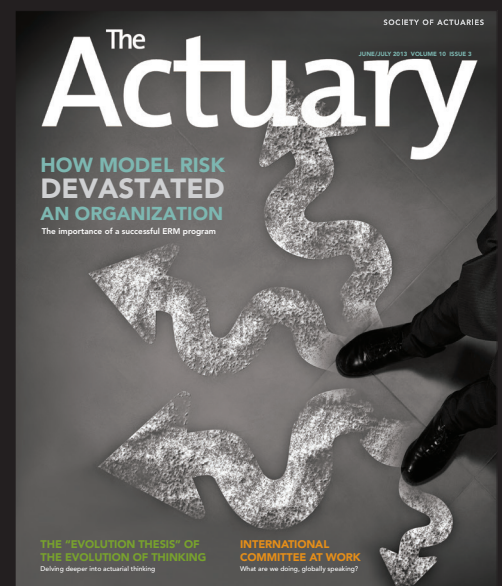
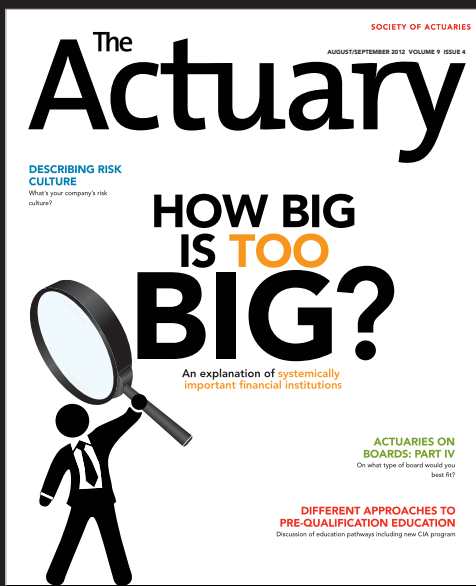


The Actuary

ARTICLES COVERING CANADA'S UNIVERSITY ACCREDITATION PROGRAM (UAP)

Published in *The Actuary Magazine*



THE EVOLUTION OF ACTUARIAL EDUCATION

BY JOHN I. MANGE

I WAS 16 YEARS OLD when I first heard the term “actuarial science.” Intrigued, I wrote to the Society of Actuaries (SOA)—there was no *beanactuary.org* in those days—and learned that you had to be good at mathematics, and you had to pass some exams. My father had passed away about two-and-a-half years earlier. He left my family well-provided for, and actuaries, I also learned, had something to do with that.

The work of actuaries affects people’s lives. What we do matters in a deep and abiding way to families like mine and, more generally, to society. As I considered whether or not being an actuary was right for me, I thought about a lot of things, but I didn’t think once about what it means to be a professional or, for that matter, what a profession is.

“Professions are occupations with special power and prestige. Society grants these rewards because professions have special competence in esoteric bodies of knowledge linked to central needs and values of the social system, and because professions are devoted to the service of the public, above and beyond material incentives.”¹ We acknowledge our duty to the public in Precept 1 of our Code of Conduct: “An Actuary shall act ... in a manner to fulfill the profession’s responsibility to the public. ...”²

But it is not just individual actuaries who have this duty. We share this duty collectively through our membership in the SOA. Integral to fulfilling this duty as a profession is optimizing how we educate and admit the next generation of actuaries to the SOA. Today, of course, we rely primarily on a self-study educational model enhanced last decade by electronic educational and assessment modules, e.g., the Fundamentals of Actuarial Practice, that most candidates supplement through the purchase of study guides, flash cards, and more. How did we get here?

Founded in 1889, the Actuarial Society of America (ASA), a forerunner of the Society of Actuaries, formed its first examination committee in 1896.³ It set one examination for associateship and another for fellowship. Soon thereafter, the profession began to consider how best to educate future actuaries. In 1905, Arthur Hunter, a member of both the Faculty of Actuaries and the ASA, offered suggestions⁴ regarding how to help actuarial students progress through the examinations and how to better prepare them for their careers, including:

- “Giving them the tools of their profession which include the Transactions of the Actuarial Society ... the Institute of Actuaries’ Text-Books ... and many other volumes.”

- Adding subjects to the syllabus such as finance, banking, pensions and a more thorough treatment of accounting.
- Encouraging actuaries to structure work assignments for their aspiring students as educational opportunities.
- Arranging monthly lectures on subjects not covered adequately in the textbooks. “These lectures might then be published as the “Text-Book of the Actuarial Society of America.”

In 1910, the ASA published its first course of reading. By then, there were four associateship and two fellowship examinations. In short, expanding the course of reading and finding ways to supplement our self-study model of actuarial education has been part of our culture almost from the beginning.

Our self-study model was, then, the only practical approach to educating future actuaries. In the ASA’s earliest days, very few universities offered actuarial programs of any kind.⁵ By the 1950s, a number of universities had taken notice of the actuarial profession and had begun to offer actuarial courses, but even then, relatively few individuals began their actuarial education at university.

By the late 1960s and for much of the 1970s, consideration was given to an “alternate

route” to associateship. In his 1969 presidential address, Wendell Milliman, then president of both the SOA and the American Academy of Actuaries (Academy), described this proposal as granting Academy credit for the first five examinations of either the SOA or the Casualty Actuarial Society (CAS) to individuals who had earned a master’s degree in actuarial science at an “accredited institution” and who also passed a single comprehensive examination covering the appropriate subjects. In his 1975 presidential address, Charles Trowbridge commented on the “very unusual relationship” between the actuarial profession and the academic world. “We put little or no emphasis on academic degrees, and we have no university-connected actuarial schools giving the equivalent of M.D. or J.D. degrees. ... [W]e rely on a professionally run (as opposed to academically run) education and qualification system.” He went on to argue that the alternate route would strengthen the ties between the profession and academia and thereby enhance the reputation of the profession. Two years later, the Advisory Committee on Education and Examinations, which had initially supported the alternate route, withdrew its support, and the debate about an alternate route ended.

The idea of granting exam credit for some university course work has been discussed from time-to-time since then, but it has never been adopted by the SOA.

Other professions take a different approach to determining who to admit as new members. The legal and medical professions, for example, require aspiring lawyers or doctors to take challenging examinations—the Law School Admissions Test and the Medical College Admissions Test, respectively—before they begin their formal legal or medical training. Assuming they score well enough on these examinations, they will spend years preparing

for their careers in highly focused graduate programs. Aspiring doctors in the United States must pass two examinations—the United States Medical Licensing Examinations (USMLE) Steps 1 and 2—by the time they complete medical school. Following that, they participate in an apprenticeship program (called a residency) during which they must pass a third examination, the USMLE Step 3. Only at that point are they able to apply for an unrestricted license to practice medicine. The route for lawyers is simpler. Once they have successfully completed law school, they need only pass a state bar exam to become licensed as a lawyer.

Outside North America, the actuarial profession has moved toward granting examination credit for some university work at accredited universities. The Institute of Actuaries of Australia has offered exam credit for some university work since 1968. The Institute and Faculty of Actuaries in the United Kingdom have accredited entire actuarial programs since 2006. They have offered exam credit for some university work for many years.

In 1973, the Canadian Institute of Actuaries (CIA) became a cosponsor of the examinations administered by the SOA. To a CIA candidate, this meant that a portion of the CIA’s qualification requirements could be met by passing certain SOA examinations. In late 2011, the CIA announced its decision to offer an additional pathway to meeting its qualification requirements. “Beginning September 2012, approved universities can offer courses giving students the option of applying to the CIA to gain exemptions from writing certain Casualty Actuarial Society/Society of Actuaries (CAS/SOA) examinations leading to associate and fellow status in the CIA.”⁶ Among the reasons for offering an additional pathway was “The option of exemptions from exams ... will open up the profession to a broader range of potential

actuaries by increasing interest in actuarial science among students across Canada.”⁷ The CIA clearly perceives that a university-based pathway will better serve the Canadian public by expanding interest and attracting more highly qualified candidates to the profession.

Whether you agree or disagree with the CIA’s reasoning or decision, it is a noteworthy event in North American actuarial education. I encourage you to read more about the CIA’s new pathway in Rob Stapleford’s article found on page 14 in this issue of *The Actuary*. ■

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ENDNOTES

- ¹ Larson, Magali Sarfatti, *The Rise of Professionalism: A Sociological Analysis*, Berkeley, CA: University of California Press, 1978, p. x.
- ² Adopted by all five U.S. actuarial organizations and effective Jan. 1, 2001, Precept 1 states in full “An Actuary shall act honestly, with integrity and competence, and in a manner to fulfill the profession’s responsibility to the public and to uphold the reputation of the actuarial profession.” Rule 1 of the Canadian Institute of Actuaries’ Code of Conduct is similar.
- ³ Much of the history of actuarial education here is drawn from Chapter VII of *Our Yesterdays: the History of the Actuarial Profession in North America, 1809–1979* by Ernest Moorhead and published by the Society of Actuaries, 1989.
- ⁴ Hunter, Arthur, “Some Suggestions Regarding the Education of Actuarial Students and the Future Activities of the Society,” TASA 9, 26.
- ⁵ The first university-based actuarial courses in North America were delivered at the University of Toronto in 1875. It was not until 1902 that university-based actuarial courses were even offered in the United States—at the Universities of Michigan and Iowa.
- ⁶ Document 211117 of the Canadian Institute of Actuaries can be found at <http://www.actuaries.ca/members/publications/2011/211117e.pdf>.
- ⁷ Ibid.

THE CANADIAN INSTITUTE OF ACTUARIES

UNIVERSITY ACCREDITATION PROGRAM

BY ROB STAPLEFORD

THE CANADIAN INSTITUTE OF ACTUARIES (CIA) is the national organization of the actuarial profession in Canada. Member driven, the Institute is dedicated to serving the public through the provision of actuarial services and advice of the highest quality by the profession. The Institute holds the duty of the profession to the public above the needs of the profession and its members as one of its Rules of Professional Conduct.

The CIA promotes the advancement of the actuarial profession in Canada through research, sponsors programs for the education and qualification of members and prospective members, ensures that actuarial services provided by its members meet extremely high professional standards, is self-regulating and enforces rules of professional conduct, and is an advocate for the profession with governments and the public in the development of public policy.

In light of these areas of focus and the need to respond to and anticipate changes in the business environment, the CIA wishes to ensure that the profession continues to evolve and meet the needs of future generations of actuaries in Canada. In response to this challenge, the Institute is focused on how the profession can attract the best and brightest talent to the profession now, to build a strong, unified, and sustainable Institute over the long term. One component

of this strategy is how the Institute educates and qualifies members.

The CIA recognizes the education and examination systems of the Society of Actuaries and the Casualty Actuarial Society towards fulfilling the eligibility requirements for the ACIA and FCIA designations, and values the good relationships that it has with its education partners. The CIA also recognizes the education and examination systems of other organizations through mutual recognition agreements. The CIA supplements these outsourced aspects of education and examinations with additional Canadian-specific content at the fellowship level, through its practice education course (PEC), and continuing professional development requirements. To further enhance the existing education and qualification processes, the Institute identified an opportunity to better leverage the high quality actuarial education offered in Canadian universities.

A great deal of work has been completed over the past three years by the Institute. An accreditation committee (AC) was formed in 2010 with the mandate to build upon the work that had been completed on accreditation, and to implement an accreditation program in Canada. The AC worked with the CIA staff to develop and implement the Institute's university accreditation program (UAP).

In order to have input from its education partners, representatives of the Casualty Actuarial Society (CAS) and the Society of Actuaries (SOA) were invited to join the AC as observers.

The goal of the UAP is to provide exemptions for some preliminary examinations while maintaining the strong standards of the exam-based entrance to the profession. The CIA believes that the UAP will allow for a rich and rewarding university experience that will make travel time to the FCIA designation more predictable and produce stronger, more capable actuaries for the future. The UAP policy, approved by the CIA board in March 2011, provides for exemptions for exams FM/2, MFE/3F, MLC/3L and C/4. No exemptions are available for the probability exam. Students will be required to complete the examination of the SOA/CAS/CIA for exam P/1 as well as the fellowship exams, modules and other eligibility requirements for the associate (ACIA) and fellow (FCIA) designations of the CIA.

Beginning in September 2012, accredited universities will be able to offer courses which will provide students with the option of applying to the CIA to gain exemptions from writing the examinations noted above.

The remainder of this article contains information on the criteria for accreditation,

the process followed, and the final recommendations of the AC and the Eligibility and Education Council (EEC) to the CIA board for the accreditation of the Canadian universities which met the accreditation requirements.

The AC invited 16 universities to apply for accreditation on a course basis. In order to assess whether the UAP criteria were satisfied, a separate accreditation panel (AP) was formed for each of the 11 universities that applied. Each AP generally consisted of a member of the AC, an academic and a fellow of the CIA, as well as a representative from the CIA staff. Members of an AP may not have been affiliated with the university to which they were assigned within the past three years. Each AP conducted a site visit of approximately 1.5 days in length to assess the university's application. The visits consisted of a series of meetings with key members of the faculty and, where possible, the instructors who would be teaching the courses eligible for exemption.

Discussions with program and department heads as well as the dean or dean's representative allowed the AP to assess the university's commitment to the UAP and to the long-term enhancement of actuarial education in Canada. Discussions also focussed on the university's discipline process, which must have stringent and detailed procedures in place to ensure that the integrity of grades is maintained. The AP also met with the individual course instructors and lecturers, and compared the responses of the first group with those of the individual instructors with respect to their perspectives on accreditation, their views on the importance and commitment to hiring fellows as faculty

members, and generally their commitment to their actuarial science program.

The number and type of faculty of each university are considered one of the key criteria for accreditation. The UAP policy calls for each university to have a minimum faculty complement to demonstrate a commitment to actuarial education and to the sustainability

The goal of the UAP is to provide exemptions for some preliminary examinations while maintaining the **strong standards of the exam-based entrance to the profession.**

of the program. Typically, this requirement anticipates a faculty with at least four full-time faculty members, one of whom must hold a fellow-level designation and who will serve as the university's accreditation actuary (AcA). The AcA ensures that the courses being used for exemption purposes continue to meet the criteria and expectations of the CIA over the long term. The AcA works closely with the CIA to ensure that standards are maintained. The AcA role may be filled through a part-time or consulting role for a transitional period of up to four years. The AP met with the nominated accreditation actuary in each university to assess that individual's long-term commitment to the role, how they perceived their level of influence within the program, and their general orientation towards the UAP.

Using the learning objectives for each SOA/CAS/CIA examination, a syllabus mapping form was completed by each university for each exam in advance of its meetings with the AP. The form required the university to map its courses to all of the learning objectives,

with minimum exam syllabus coverage of 85 percent. Where syllabus coverage was less than 100 percent, universities were asked to identify what additional material would be covered to make up any shortfall. During the meetings with individual course instructors, the AP reviewed the university's course outlines against the syllabus mapping form. Instructors were asked to provide examples

of additional material taught outside the syllabus, including real-world examples to ensure that students receive a broad and realistic preview of the profession.

The university course outlines were also reviewed with respect to how the final course grade is calculated. Each course for exemption must have at least 80 percent of the final course grade coming from examination or test conditions. And, the total number of hours of examination within the courses required for exemption must exceed the number of hours of examination on the SOA/CAS/CIA examinations.

Course instructors were asked to supply exam scripts for each course as well as sample anonymous student exams for high achieving students, as well as for those who were not as successful, to determine the depth and breadth of the examination questions being used, how well the students were able to respond, and how hard or easy a particular instructor may

in order to assess whether improvement in grading standards was required. In particular, the AP was interested in seeing the quality of responses from students and the corresponding marks given to students in the target exemption mark range of B or higher.

Upon completion of the AP's site visit, the panel was charged to write a report

To ensure a thorough review, the AC went back to each university to gather further historical information for each course regarding the number of students completing the course with a grade of B, B+ or A-, over the past two offerings. Typically two to three courses are mapped to each SOA/CAS/CIA exam syllabus, and students are required to achieve the minimum grade in every course to qualify for each exemption.

There is also a compound effect that needs to be considered because in most cases, a student is required to achieve the minimum grade on more than one course to receive an exam exemption from the CIA. The AC concluded that the expected number of students who will receive exemptions will likely be less than the proportion of students who pass the traditional examinations.

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using a standardized template to record the findings of the site visit and to make a recommendation to the accreditation committee.

The AC then reviewed the reports from each AP and met over two days to review and prepare their recommendation to the EEC. The AC's work included a thorough review of the estimated maximum percentage of students who would meet the minimum grade in each course required for each exemption in order to set a minimum exemption grade for each course in each university. The process for setting these grades was rigorous. In their original application, universities were asked to propose an exemption grade of B or higher for each course mapped to the SOA/CAS/CIA exam syllabus. B was chosen as the minimum requirement in order to be more stringent than the grade (B-) required for validation by education experience (VEE) within the current SOA/CAS/CIA examination structure.

The estimated number of exemptions for each course mapped to each exam was then compared to data supplied by the SOA and CAS on the overall passing percentages for each SOA/CAS/CIA exam that would be eligible for exemption. The AC also received information from the SOA for Canadian universities which included the number of successful candidates at each university-based test center for each of the exams in question. The AC noted that this data may not reflect all the students from that university writing examinations, that some students may not be enrolled in the actuarial science program but may still be writing exams, and that the statistics for some universities would be based on a rather small sample size of students. The AC also noted that there was a noticeable difference in success rates among Canadian universities. The AC attempted to recognize all of these factors in setting the minimum grade required for exemptions for each course in each university and concluded that it would be difficult to have one single grade apply to all universities and all courses.

A minimum exemption grade for each course in each university was then set by the AC that would produce an estimated number of exemptions lower than the overall passing percentage for the same SOA/CAS/CIA exams. In addition, the overall principle of keeping the final exemption grades between B and A- was applied. It is important to note that the recommended exemption grades are a starting point for year one of the program. Exemption grades and percentages will be monitored yearly against early predictions to assess whether adjustments are needed.

Upon completion of their review of the AP reports and the establishment of the minimum exemption grades, the AC prepared its report and recommendations for accreditation for consideration by the EEC. The EEC subsequently accepted the recommendations of the AC, and as a result, five universities received full accreditation (term of five years), and three universities received provisional accreditation (term of three years). Provisional accreditation provides universities with the same rights and benefits as fully accredited universities; however, some changes to the program may be required within an agreed-upon time frame.

The UAP Policy anticipated an appeal process for universities wishing to appeal the decision

of the EEC regarding their application. For each university appeal, an appeal investigation panel was formed to review the original application, the AP report and other relevant information. The appeal investigation panel prepared a confidential report for consideration by an appeal review panel, which had the authority to make a final determination. Three universities appealed the initial recommendation of the accreditation committee, and as a result of the appeal process, two additional universities were accredited.

SUMMARY OF THE CRITERIA FOR ACCREDITATION

The criteria for accreditation are outlined in Section 3 of the UAP Policy, which is available on the CIA website or by sending a request to accreditation@actuaries.ca, and is broadly summarized below.

1. 85 percent coverage of SOA/CAS/CIA syllabus;
2. Additional material where less than 100 percent coverage;
3. Typically four full-time faculty, one of whom must be a fellow;
4. Accreditation actuary (fellow) approved by the CIA;
5. Strong testing procedures with at least 80 percent of a grade from examination-like setting;
6. Strong university discipline measures; and
7. Exemption grades of B or higher on each course required for exemption.

In addition to the policy criteria, the accreditation committee has developed guidelines for the accreditation program to aid in interpreting the policy. These guidelines will continue to evolve during the life of the program.

ACCREDITED UNIVERSITIES

The following universities are accredited for courses beginning on, or after, September 2012. (Listed in alphabetical order)

Concordia University
Simon Fraser University
Université du Québec à Montréal
Université Laval
University of Calgary
University of Manitoba
University of Regina
University of Toronto
University of Waterloo (Undergraduate and Graduate Program courses)
University of Western Ontario

PROCESS FOR GRANTING EXEMPTIONS TO STUDENTS

Students who achieve the minimum grade requirement in the accredited courses will submit an application form along with official university grade transcripts. An application fee of 80 percent of the corresponding SOA/CAS exam fee will apply. The AC considered a transitional measure where students who had achieved the minimum grade in accredited courses prior to September 2012 could apply to receive exemptions from the CIA. The AC decided against recommending retroactive exemptions despite the fact that many students will feel that they have been disadvantaged. The main reason is that the courses had not been evaluated by the CIA and would not have reflected any changes requested by the CIA to meet the minimum accreditation requirements.

NEXT STEPS

The CIA will appoint an external examiner for each university for ongoing monitoring and review. In addition, the CIA will maintain regular communications with the accreditation actuary in each accredited

university to provide support and assistance where necessary.

There are a number of additional actions that need to be completed to implement the accreditation program. Many participants in the accreditation process identified that some form of recognition from our education partners is a key step in the long-term success of the UAP. Therefore, gaining recognition and acceptance from the SOA/CAS of CIA exemptions is a top priority for the CIA. The AC has been actively providing information to both the SOA and CAS for their review. In addition, because the CIA uses the education and examination systems of the SOA and CAS to qualify candidates for the ACIA and FCIA designations, it recognizes the importance of ensuring a continued clear pathway for all CIA candidates, including those with UAP exemptions, to fulfill those qualification requirements.

Other program-specific activities include the recruitment and training of external examiners to be appointed to review the accredited universities, ongoing monitoring and review of the program, and the development of administrative procedures by the CIA secretariat.

Questions or comments may be directed to: accreditation@actuaries.ca. **A**

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HOW SHOULD THE SOA REACT TO THE CIA'S UNIVERSITY ACCREDITATION PROGRAM? A U.S. ACADEMIC'S PERSONAL VIEW

BY JAMES E. TRIMBLE

The Canadian Institute of Actuaries (CIA) board approved a University Accreditation Program (UAP) in March 2011. Rob Stapleford wrote an excellent article describing the UAP and the work that went into the development of the program that was published in the August/September 2012 issue of *The Actuary*. In that article, Rob states that, "Beginning in September 2012, accredited universities will be able to offer courses which will provide students with the option of applying to the CIA to gain exemptions from writing the examinations." The preliminary examinations for which exemptions may be granted are FM, MFE, MLC and C. Ten Canadian universities have been accredited by the CIA.

Rob also wrote, "Many participants in the accreditation process identified that some form of recognition from our education partners is a key step in the long-term success of the UAP. Therefore, gaining recognition and acceptance from the SOA/CAS of CIA exemptions is a top priority for the CIA."

I am writing this article to express my opinion that the SOA board should recognize the waivers that the CIA grants for credit for preliminary examinations to students under their UAP, provided that the SOA has an active role in the oversight of the accreditation program. Given the SOA's decades-long experience delivering education in a variety of ways, I believe that the CIA would welcome the SOA's participation.

The SOA's 2013–2016 Strategic Plan lays out a path to foster membership growth globally, enhancing the value of our credentials individually and collectively. To realize this

plan, the SOA must recognize national differences, and it should be open to alternative educational methods employed in different countries, provided they do not diminish the value of the SOA credentials. Indeed, the SOA already recognizes this by granting waivers for SOA examinations for credits granted by the U.K. and Australian actuarial organizations, including those credits that were acquired through accredited university programs.

The CIA appears to be implementing a robust system of oversight, similar to the U.K. and Australian processes. The Canadian UAP program only grants credits to top-performing students in accredited actuarial programs in major Canadian universities. Rob's article states that, "The AC (accreditation committee) concluded that the expected number of students who will receive exemptions will likely be less than the proportion of students who pass the traditional examinations." Some readers may be skeptical of that claim. My experience as a university professor over the last three years leaves me with little doubt that it is accurate. Over the three years that I have taught financial mathematics, 100 percent of the students who achieved an A or A- in my class passed exam FM shortly after finishing the course. Naturally, some students who earned a lower grade also passed the actuarial exam. So, hypothetically if the bar for exam waivers were set at a grade of A- or better in my class, the evidence strongly suggests that the percentage of students achieving the waiver would be less than the percentage of students who would pass the exam. Further, my evidence also suggests that the students granted the waiver would be deserving of the waiver.

I have discussed these results with faculty teaching actuarial courses at several other universities, including the University of Manitoba, Penn State University and the University of Waterloo, to name just a few. All reported similar results for their courses. The CIA applied just this sort of analysis in order to set minimum exemption grades for each course in each university. Therefore, the risk of devaluing the SOA credential through recognition of CIA credits is extremely low. Were the SOA board to adopt my proposal, this risk would be monitored and controlled through SOA participation in monitoring of the accredited university programs.

U.S. and Canadian actuaries have had a special relationship through the SOA for a long time. If the SOA chooses not to work with the CIA with respect to the Canadian UAP, then it risks damaging that special long-term relationship and losing future Canadian members and volunteers over the long run. That would be a most unfortunate outcome, especially in light of the SOA's strategic plan to become a more global organization. Moreover, the risk of that outcome far outweighs any risk the SOA would take by recognizing credits the CIA grants to students in accredited universities through its UAP. I urge the board to give serious consideration to working with the CIA in this important educational development. **A**

DISCLAIMER: The views expressed in this article are those of the author alone. They do not necessarily represent the views of the Society of Actuaries.

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Education

A STRATEGIC LOOK AT UNIVERSITY ACCREDITATION

BY MARCUS ROBERTSON

AT ITS OCTOBER 2012 MEETING, the SOA board of directors approved the SOA's 2013–2016 Strategic Plan, which can be found at SOA.org/strategicplan/. A key element of the SOA's Strategic Plan is the emphasis on the promotion of SOA-specific credentials and SOA's education pathway.

In support of the SOA's education pathway, the board set the objective to provide globally accessible and state-of-the-art education and validation. For greater clarity, this objective was defined by the board in the following

In support of the SOA's education pathway, the board set the objective to provide globally accessible and state-of-the-art education and validation.

words: "To attract the best and brightest around the world to study for, invest in, and complete our credentials, we will provide education, including testing materials and support that is globally accessible and easy to use. We will provide cost-effective superior education and validation of mastery in selected markets through our state-of-the-art

learning infrastructure and in collaboration with strategic partners."

So, what does this mean for future education initiatives? Over the past several years, we have seen many changes in the delivery of basic education for actuaries. Current candidates experience several styles of education and validation (testing), including:

- Validation by Educational Experience (VEE) where candidates study and are tested on economics, corporate

finance and applied statistical methods through approved courses at colleges and universities and other educational providers;

- Preliminary high-stakes multiple-choice exams that are administered at exam centers;

- The Fundamentals of Actuarial Practice (FAP) Course, an e-Learning course where candidates are exposed to all practice areas, receive an educational experience that addresses various learning styles and are tested by way of six assignments that are self-evaluated and graded and by two multi-day assessments that are graded by volunteer actuaries;
- Fellowship high-stakes essay exams that are administered at exam centers;
- Fellowship e-Learning modules with end-of-module exercises that are self-evaluated and graded; and
- Seminar courses (the Associateship Professionalism Course, the Fellowship Admissions Course and continuing professional development education courses) that are offered frequently in locations around the world.

To provide the best possible education, the Education Committee, along with SOA staff, is continually looking at ways to improve candidates' educational experience while

maintaining the standards our members and the public expect.

One idea that surfaces from time to time and always creates a lot of discussion is granting exam exemptions upon a candidate's successful completion of accredited university courses. Unfortunately, the discussion about exam exemptions is usually focused on validation issues (formal high-stakes testing performed by the profession versus assessment of the candidates' performance at the universities) and not on the educational merits of the university courses. We can't ignore validation, as we are a credential-granting organization and we have standards to maintain, but it is time we separate education from validation and consider the relative merits of university and self-study education.

Is there an approach that can provide a superior education and help the SOA achieve its strategic goals?

Proponents of university education argue that:

- Courses are usually structured to ensure that students cover the required material by the time of validation (test);¹
- Teachers are able to assist students by explaining concepts that may be difficult to understand by merely reading syllabus materials;
- Teachers are knowledgeable about the subject area and, in the case of actuarial science teachers, often have business experience;
- Teachers are able to adapt their teaching to suit the situation (small

class versus large class, less capable versus more capable students, etc.);

- Teachers are able to use different types of delivery methods and can choose methods to suit particular circumstances;
- Classes provide social settings where students can learn from and teach their peers; and
- Teachers can structure classes to help develop skills outside subject mastery, such as written and oral communication skills.²

Proponents of self-study argue that:

- Self-study permits a student to study at his own pace;
- Self-study requires students to learn self-discipline; and
- Self-study is relatively inexpensive (this is an important consideration for individuals who are not in formal actuarial programs but want to be actuaries).

It is clear to me that neither university nor self-study is perfect and both approaches have a place in the education of future actuaries. If the SOA is to achieve its strategic goal of providing cost-effective, superior education that is globally accessible, I believe it needs to embrace both approaches in its educational offerings. To me, this argues for universities and colleges to become more involved at the preliminary exam level. At the fellowship exam level, I believe the SOA should look for ways to introduce some of

the social benefits of the university approach, perhaps through use of social media.



Marcus Robertson

If we embrace the many benefits of university education, e.g., asking universities and colleges to become strategic partners in the education of future actuaries, we will come closer to realizing a truly state-of-the-art pre-qualification education. **A**

Marcus Robertson, FSA, FCIA, is a semi-retired pension actuary. He currently sits on the SOA board of directors and is the board partner for Education. Marcus has been a volunteer on the Education Committee for over 20 years. He can be reached at marcus.robertson@gmail.com.

ENDNOTES

¹ An interesting feature of the Canadian Institute of Actuaries' (CIA) University Accreditation Program (UAP) is that students seeking credit for a preliminary SOA exam are required to take one to four university courses (usually two or three) and achieve high grades in each course to receive credit. By requiring students to take all of the supporting courses, the CIA's UAP is ensuring that students actually cover all of the material covered in the university courses before they receive credit for the preliminary exams. This is a feature that can't be guaranteed with self-study. A potential weakness, in my opinion, of the UAP is that the university courses need not cover 100 percent of the learning objectives established by the Society of Actuaries. The CIA requires universities to cover 85 percent of the learning objectives established by the Society of Actuaries and to include additional materials if their courses do not cover 100 percent of the learning objectives. The CIA therefore must satisfy itself that there are no material omissions when it accredits a university's actuarial courses.

² This, of course, will work only when classes are a manageable size.



UAP IS NOT IN OUR BEST INTEREST—A PERSONAL VIEW

BY BRADLEY M. SMITH

The April/May 2013 issue of *The Actuary* featured an article recommending that the SOA board recognize the Canadian Institute of Actuaries' (CIA's) University Accreditation Program (UAP), and another calling for the SOA to embrace university as well as self-study approaches to educating actuaries while implicitly endorsing adoption by the SOA of the CIA's UAP. Under the UAP, students who successfully complete (defined as receiving a certain grade) a class (or classes) devoted to topics covered in certain preliminary actuarial exams are given credit for passing

the SOA's exam. One article was written by James E. Trimble, director of Actuarial Science at the University of Connecticut. I have had the great pleasure of speaking with Professor Trimble's students during my tenure as a presidential officer of the SOA and admire what they have accomplished at UConn. The other article was written by Marcus Robertson, a current SOA board member with whom I have worked over the past few years and whom I greatly respect.

I have met with the leadership of the CIA on multiple occasions and understand their

expressed desire to have the SOA adopt their UAP. I know that the SOA values its Canadian members and some of our leaders, including me, would undoubtedly like to express appreciation of our Canadian counterparts by accommodating their request, if at all feasible.

Nonetheless, I believe the impact of such adoption would be sufficiently negative for the SOA and its members—enough to necessitate denial of the CIA's request. The remainder of this article will explain why I believe adoption is not in the SOA's best interest.

Personally, my most valuable professional and economic asset is my fellowship in the SOA. For me, it is the asset from which all other financial and professional assets emanate. Based upon numerous discussions over many years, I believe this to be true for many, if not most, of you. Consequently, the primary responsibility of both the board and the staff of the SOA must be to maintain, protect and enhance the value of the SOA's credentials. I believe that adoption of the UAP has the potential to impair the value of SOA credentials.

Specialized skill validated by an independent authority is a key component of designation as a professional. Accountants are tested and accredited, despite their rigorous university-based education. My spouse, Karen, is a CPA. She graduated from the University of Illinois with a major in accounting. The University of Illinois is known for the rigorous preparation of its students. Its graduates historically have been extremely successful passing the CPA exam. Nonetheless, graduates of the program are still required to pass the exam. No waiver is granted. Independent, uniform testing is the best way to assure the continued quality of university-trained, future accounting professionals. Similarly, graduates of the nation's finest law schools are required to pass the bar exam before they are allowed to practice law. Medical school graduates must pass their board exams. What makes the actuarial profession different?

Outsourcing the validation of skills of our future professionals introduces important quality control issues. From time to time, we have all read about cheating scandals at some of our most prestigious universities. Although admittedly anecdotal, I have received feedback from a few of our recent FAC graduates. They expressed concerns about the difference in oversight of actuarial exams versus the oversight that existed when they took their final exams in college. These students graduated from schools approved by

the CIA to implement the UAP. In addition, I believe we need to recognize that what does and what does not constitute "cheating" differs by geographic region. We cannot allow university professors around the world to apply their personal interpretation of "cheating" when administering exams that validate our future professionals' competence.

We are also aware of the concept of "grade inflation" in our universities. Grading of SOA-sponsored exams occurs on an anonymous basis. The individuals grading exams in a university setting typically know the individual test takers. How might they react when they consider the personal consequences of giving a certain grade to one of their students? These are quality control risks that we can avoid by rejecting adoption of UAP.

Proponents of the UAP appear to be confusing education versus testing/validation. They have a clear preference for university-based education versus self-study. Having graduated from a university-based actuarial program, you will not find a bigger supporter of university-based actuarial education than me. Adopting UAP is not a referendum on university-based education versus self-study. Rather, it is a decision whether or not to outsource validation of actuarial skills. And it is not limited to Canada. If we were to adopt this proposal, how would we deny outsourcing responsibility to similarly qualified universities in the United States? In Hong Kong? In the rest of the world? The SOA is a large, growing global organization. Decision makers must take into consideration not just the relatively benign consequences of adopting a program in a limited geographic area, but the consequences of adopting the same program worldwide.

Adoption of this proposal and expansion globally would transform the expense structure of the SOA. Testing is scalable with

much of the variable component currently covered by SOA volunteers. Accreditation of university programs is not scalable and would involve substantial incremental expense, not to mention the potential loss of exam revenue, incurred by the SOA. This would eventually result in either an increase in membership dues or a decrease in membership services, as currently provided by the SOA. While not dispositive, this certainly needs to be considered in any decision to adopt the UAP. If the benefits of adoption were overwhelming, the cost would not be a significant concern. Given that the benefits are questionable, at best, the incremental expense must be considered.

The argument I am *not* making is, "We had to pass actuarial exams. You should, too." The SOA is a professional organization, not a fraternity or sorority where membership is subject to an initiation process. I continue to support the existing system simply because uniform testing is the best way to validate the competence and capability of potential future professionals. **A**

DISCLAIMER: The views expressed in this article are those of the author alone. They do not necessarily represent the views of the Society of Actuaries.

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