

# A Solid Bet

Dickinson education enhances chances  
for a career in risk prediction

By J. Kevin Collins

Imagine living life without the ability to own a home, drive a car, have surgery or spare your family financial devastation if you died. Fortunately, we can insure against many risks of life because there are actuaries, who can quantify and price these risks.

Not surprisingly, calculating risk is extremely complex, and the people who perform this Herculean task often are assumed to be brainy geeks who spend their waking hours, secluded from everyday life, crunching numbers.

As students and recent alumni are proving, however, this stereotype is the exact opposite of reality: some of the most creative and influential actuaries are not narrowly trained mathematicians but the broad-thinking products of a liberal-arts education.

"Once you get beyond the math, a well-rounded liberal-arts background can give you a competitive advantage in actuarial work," says Dick Forrester, assistant professor of mathematics and adviser to students entering the actuarial track.

The actuarial profession has consistently been rated as one of the top five careers in the United States. "It's not just the compensation but the job satisfaction and the ability to progress at their own pace and control their careers that draw students to consider becoming actuaries," Forrester points out.

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—Scott Reznick '03

The credentialing process for an actuary is relatively unusual. A series of interdisciplinary exams must be passed, covering advanced mathematics, economics, finance, legal regulation and ethics, after which accreditation is given by either the Casualty Actuarial Society (for property and casualty risks) or the Society of Actuaries (for life and health risks). Given their difficulty, the exams are normally taken over a period of years while prospective actuaries gain on-the-job experience working for insurance companies, which support their efforts by giving them time off to study and reward them with promotions as they pass each exam.

A few years ago, students considering the actuarial career track lobbied the Department of Mathematics and Computer Science to set up an advising program. Forrester, whose primary scholarly focus is applied math and operations research, became their adviser.

Forrester even went the extra mile and sat for the first actuarial exam—widely known throughout the profession as the "killer exam"—so that he could better understand what students face.

"It's an incredibly difficult exam, even for a Ph.D. in math," Forrester makes clear. "We mathematicians are used to dealing with abstractions, so taking an exam where you have to make calculations means

that anyone can make mistakes." Forrester did pass the exam and has used the experience to help mentor actuarial students.

Many of those Dickinsonians now doing actuarial work credit Forrester's guidance and their education with helping them thrive in the field.

Scott Reznick '03 is one of those success stories. Right after graduation the math major went to work for Aetna Life and Health Insurance Co. in Hartford, Conn., where one of his challenges is to keep health coverage affordable in a time of rising costs. Reznick calls his liberal-arts education "excellent preparation," giving him the ability to succeed in a profession where new areas of knowledge must be mastered regularly.

"I have drawn on my English and literature courses as much as my math classes," says Reznick. "You have to be able to write and communicate effectively to be a successful actuary." The last four actuarial exams are comprised of essay questions that require being able to explain complex issues to technical and lay audiences. Reznick already has passed six exams and is awaiting final results for the seventh and eighth.

Two other alumni in the actuarial field who would echo these sentiments are Jennifer Reitmeyer Beers '05 and Taralyn Slusarski '04. Both work for ACE USA, an insurer based in Philadelphia.

Beers, who works on pricing insurance policies for airports and other large risks, says that "Dick Forrester is an amazing teacher and coach who sat with me once a week to help me prepare for the first exam." In an unusual twist of fate, teacher and student took the exam at the same time.

Unlike Beers, Slusarski became a Chartered Property Casualty Underwriter first and then pursued the actuarial track, as her interest in risk management grew. Slusarski was a math major and also went on the study-abroad program in Bremen, Germany.

"My experiences both on campus and abroad have contributed to my work as an actuary in a number of positive ways," she reflects.

Both Beers and Slusarski also credit their "supportive environment" at ACE USA—which gives them time off to study for their exams and plenty of informal encouragement—with helping them progress toward becoming full-fledged actuaries.

On campus there are aspiring actuaries who break the stereotype. Math and economics major Jean-Paul



Woodroffe '08, from Trinidad and Tobago, is a veritable Renaissance man: resident adviser, accomplished violinist, Engage the World fellow, and first-degree black belt. (He belongs to the Karate club run by Forrester, who also is a black belt.)

Woodroffe, who enjoys discussing philosophical issues and understanding the motivation behind human decision-making, made his own strategic decision a few years ago. A Dickinson alumnus had advised him to pursue a liberal-arts education to enhance his effectiveness as an actuary.

"To be a good actuary, you have to be creative, to be able to think outside the box, to deal with the empirical world of behavioral variables," Woodroffe explains. "Liberal-arts majors can connect the dots of the real world better than narrowly trained business or math majors."


Woodroffe plans to complete all of the actuarial exams and gain professional experience in the United States before returning home to start his own consulting business—taking what he has discovered about human behavior and incorporating it into risk modeling.

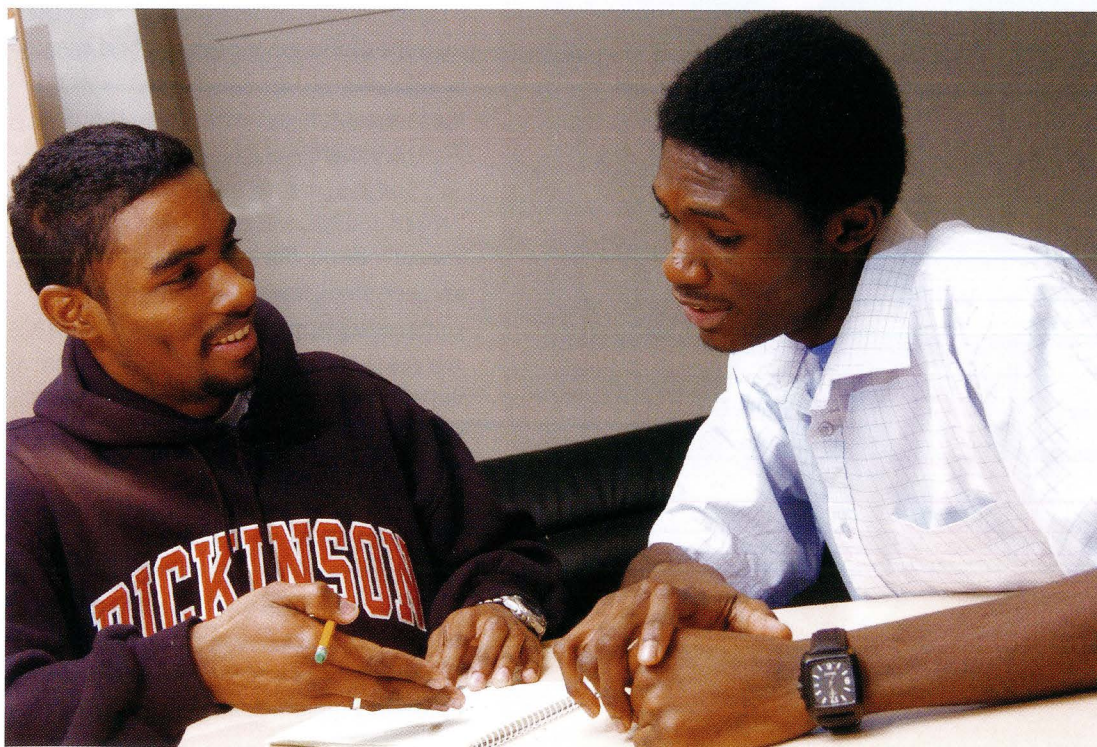
Emmanuel "Kwame" Acquah '07 also sees himself as more than just a "numbers cruncher" and hopes to bring his skills to places where actuaries are rare.

Even before leaving his home country of Ghana, he knew that he wanted to be an actuary. "I came to Dickinson because I wanted all of the advantages of liberal-arts training," Acquah says. "Here I could major in math and econ, develop my writing skills, and truly experience a global education."

Last year, with his coursework in the Norwich, England, program completed, he stayed on to do an internship with the Institute of Economic Affairs in London. There he and two actuaries worked on a paper examining the challenges of implementing Western-style pension reforms in a developing country such as Nigeria, where people save mostly through traditional and informal means that are based on strong family and community ties.

Having lived in Nigeria, Acquah made sure that the paper's policy recommendations took the culture's savings norms into account.

"The cultural insights ultimately made our policy proposals workable—and *useful*," adds Acquah with a self-conscious grin. "I think Benjamin Rush would be proud." 



Jean-Paul Woodroffe '08 (left) of Trinidad and Tobago and Emmanuel "Kwame" Acquah '07 of Ghana work together to solve a mathematical problem.