

The Actuarial Program at Pennsylvania State University

by Arnold F. Shapiro

The major focus of the actuarial program at Penn State is its two actuarial tracks at the undergraduate level. One track, the actuarial science major, is offered through the Insurance Department of the College of Business Administration. The other track, offered through the College of Science, is the mathematics major with an actuarial mathematics option. The completion of either of these programs results in a Bachelor of Science degree.

The Origin of the Program

The Penn State actuarial program began in 1973, when I was hired to develop and coordinate an actuarial offering. Since most of the potential students would be mathematics majors, the program began as an actuarial science option in the Department of Mathematics. Except for the fact that the program was tied to the mathematics major, it was modeled after the actuarial science program at the University of Manitoba, my alma mater.

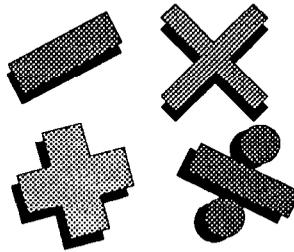
By the mid-1980s, it was clear that many students would benefit from an actuarial science major in the College of Business, and so the major was developed. Among other things, this gave students the option of taking business courses instead of the chemistry and physics courses required of the mathematics majors. Thus, for example, we could accommodate actuarial students with a particular interest in finance.

Initially, calling the major "actuarial science" presented a problem, because our Senate was concerned that the students would be confused if both the mathematics department and the business school offered "actuarial science." Fortunately there was excellent rapport between the two faculties. The problem was resolved when the Department of Mathematics volunteered to change the name of its option to "actuarial mathematics," so that the business school could call its major "actuarial science."

Students Play a Major Role

In recent years, approximately 90 juniors and seniors have been enrolled in our undergraduate actuarial program.

In spite of this relatively large size, we continue to run the program with only one actuarial professor, assisted by instructors in the mathematics and statistics departments for topics in



earlier actuarial examinations. To compensate for the small faculty, the actuarial students themselves have been called upon to help run the program.

The most visible form of student involvement has been the Penn State actuarial club. The club provides an active organization for the academic and social interaction for Penn State actuarial students. Beyond this, however, it has a number of responsibilities.

One primary responsibility of the club is student advising. The Peer Advisory Committee, which comprises seniors who have volunteered to be available, answers questions from undergraduates concentrating in actuarial science. The advisors are chosen to represent both the major and the option so that students in both situations have a place to turn for information.

A second responsibility of the club is the production of resume booklets, which are sent to approximately 150 potential employers. All actuarial students are encouraged to submit their resume for inclusion in either the permanent or summer section of the club's resume booklet. The cost of producing the booklet is shared by the actuarial program and the club members.

Another club responsibility is to help coordinate visits from potential employers and prominent people in the actuarial field. This includes visits from alumni and past presidents of the Society of Actuaries. In conjunction with Penn State's Career Development and Placement Services, the club has been successful in getting many

employers to visit the university each year to recruit students for summer and full-time employment.

In addition to these primary activities, the club keeps our actuarial curriculum guide up-to-date, participates in a phonathon, and helps coordinate the SOA examination study sessions and our reimbursement of the examination cost for students passing the SOA examinations.

Course Format

A great deal of emphasis in our actuarial courses is placed on communication, stressing particularly the conceptualization of mathematical and statistical concepts. In the actuarial classes, for example, everyone is encouraged to participate in the class discussion of ideas. A by-product is that the students in the class quickly get to know each other on a first-name basis and rapidly bond. To help in this communication process and to focus the class, computer-assisted instruction is used during the lectures.

In addition to the computer-assisted lectures, course instruction is also available on computers. The best example of this is our mathematics of finance instructional software, which students can access through the university-wide LAN.

Further Information

Further information on the actuarial science program at Penn State can be obtained by contacting:

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