Actuarial Science at the University of Wisconsin-Madison  
A Historical Overview


The Beginnings

The individual who played the major role in instituting and establishing the program in Actuarial Science at the University of Wisconsin is Erwin A. Gaumnitz, dean of the School of Business from 1954 to 1972. Dean Gaumnitz's graduate education had been in quantitative methods and he also had a strong interest in insurance. He felt that the University of Wisconsin's insurance offerings would be more complete if courses in actuarial science were included. He received strong encouragement in this respect from C. C. Center, professor of insurance in the School of Business.

Dean (then associate) Gaumnitz hired Robert E. Larson, F.S.A., to establish the appropriate courses in 1948. The program was for an M.S. in Actuarial Science and was approved by the Graduate School of the University of Wisconsin to be governed by an interdisciplinary committee to be drawn from the faculty of the School of Business, the Mathematics Department, and the Economics Department. Dr. Larson was the first chairman of the Actuarial Science Committee and established the first formally recognized "actuarial" courses at the University of Wisconsin.

It should be noted, however, that the University of Wisconsin had long offered courses in mathematical statistics and in interest theory, as well as a full range of courses in pure mathematics. In his book, Charles Sumner Slichter, Dean Mark Ingraham notes that when Slichter became chairman of the Mathematics Department in 1906, there were two other members of the department. Of Professor Linnaeus Dowling, he writes, "....he was also interested in actuarial mathematics." The second assistant professor was Ernest Skinner, who later wrote The Theory of Investment, the standard text on the mathematics of finance at American universities for many years.

Dean Ingraham, who has served at the University of Wisconsin both as chairman of the Mathematics Department and as dean of Letters and Science, also served on the board of trustees of T.I.A.A. at the time of the formation of C.R.E.F. Through his influence as chairman of the board of the State Teachers Retirement System and as vice chairman of the Employee Trust Funds Board, the variable annuity option was made available to State of Wisconsin employees in the late 1950s. This awareness of actuarial science by members of the Mathematics Department and by the dean of Letters and Science certainly smoothed the way for a cooperative relationship in serving actuarial students. The Commerce Building,
which housed the School of Business since 1954, was renamed Ingraham Hall in 1992 in honor of Dean Ingraham when the business school moved to its present location, Grainger Hall.

The additional courses established by Professor Larson and first offered in 1948 were a Menge & Glover-level *Mathematics of Life Insurance* course, a two-semester course in Jordan's *Life Contingencies*, and a course in finite differences called Actuarial Mathematics. Professor Larson was at the University of Wisconsin until 1953, and although enrollments were low during those initial years, his students have proven themselves to be exceptionally able.

**The Early Years**

After Professor Larson's departure, the program languished. However, several of his talented graduate students, notably John Fibiger, kept the actuarial courses alive. In 1956, Professor William Bicknell was hired by Dean Gaumnitz to supervise and further develop the actuarial program. During the period 1956-1965, enrollments gradually but steadily rose, and two courses were added. An Advanced Interest Theory course was introduced, as was a Seminar in Actuarial Topics. The seminar was usually concerned with graduation and other Part 5 material, but was also utilized to study life insurance accounting and available for any topics of interest to students. Professor Bicknell served as chairman of the university's Committee on Actuarial Science from 1956 to 1971. He was the anchor for our first generation of students and served the program until 1984, when he was forced to retire due to ill health. When Professor Bicknell passed away in 1986, scores of his former students established a scholarship fund in his name that continues to provide funding for actuarial science students.

In recent years, other persons interested in actuarial science have joined the faculty and have served on the Committee of Actuarial Science. T. N. E. Greville, F.S.A., became a member of the Mathematics Research Center on the University of Wisconsin campus in 1963, and at the same time was accorded faculty status in the School of Business. In view of his distinguished actuarial background and interest, it was appropriate that he be invited to teach actuarial courses whenever his schedule would permit. He taught Part 5 seminars nearly every year until 1968. Throughout, he has been interested in the actuarial program and has served on the governing committee. He returned to Washington, D.C. in 1973 on a leave of absence to resume work in the National Center for Health Statistics. He returned to Madison in March of 1976 and rejoined the Mathematics Research Center.
Donald R. Schuette, A.S.A., joined the faculty of the School of Business in 1965 to teach courses in actuarial science and quantitative methods. He had been with the actuarial program at Drake University where he spent six years. Professor Schuette assumed the chairmanship of the Committee on Actuarial Science in 1971 and continued in that position until his retirement in 1992. Like Professor Bicknell, Professor Schuette was the anchor of the program for a generation of students who fondly remember him. Professor Schuette continues to serve the program in an advisory capacity through the Actuarial Science Program Advisory Council.

Professor James C. Hickman, F.S.A., A.C.A.S., long associated with the actuarial program at the University of Iowa, was a visiting professor at Wisconsin in 1970-71 and was persuaded in 1972 to accept on a permanent basis a joint appointment with the School of Business and the Department of Statistics. Professor Hickman’s scholarship and leadership qualities brought national prominence to our program. Among his many accomplishments, Professor Hickman was a co-author of *Actuarial Mathematics*, the “bible” of actuarial science that has now served a generation of actuaries to life contingencies. Professor Hickman served as a vice president of the Society of Actuaries from 1975-1977 and as dean of the business school from 1985-1990. Following his retirement in 1992, Professor Hickman continues to provide important contributions to the program by providing advice to faculty.

Enrollments were stable at relatively low levels until 1971, when they began to increase. A scholarship program announced among Wisconsin high schools began that year, and it has been instrumental in bringing actuarial science to the attention of many students. Enrollments in 1975-76 reached 20 students in the Life Contingencies class and 12 in the Part 5 courses.

**The 1980s**

In 1983, Professor Edward W. “Jed” Frees, F.S.A., joined the faculty. Jed is an actuarial program product, having graduated with an M.S. in actuarial science in 1976 from the University of Wisconsin. After several exciting international assignments and all but one of the fellowship exams, he embarked up the Ph.D. program in statistics at the University of North Carolina. He completed his degree there and joined the faculty in business/statistics in 1983. He completed his fellowship in 1986. Regarding his research, Professor Frees has won the Society of Actuaries’ Annual Prize for best paper published by the Society and the Ed Lew Award for research in modeling, as well as the Actuarial Education and Research Fund’s annual Halmstad Prize for best paper published in the actuarial literature (three times). Professor Frees currently is the editor of the *North American Actuarial Journal*. He is also a
fellow of the American Statistical Association and has served as a trustee of the *Actuarial Foundation*.

In 1984, Professor James M. Robinson, F.S.A., re-joined the program. Jim is also an actuarial program product (he and Jed were classmates in Bill Bicknell’s 1975-76 Life Contingencies class). He graduated from the undergraduate program in 1977 and served Sentry Insurance until he succumbed to the urge to return to graduate school. When Bill Bicknell retired in 1984, we were able to invite Jim to join us in the dual capacity of Ph.D. student in the business/statistics program and lecturer in actuarial science. That arrangement worked well. Jim defended his dissertation in 1989 and subsequently served on the faculty until 1994, for a total of 11 years of service to the program. Jim continues to support the program through his advice and occasional teaching. He is currently a senior scientist for the Center for Health Systems Research and Analysis, a think-tank located at UW-Madison.

Enrollments remained steady until the late 1980s, when they began to climb due to the national recognition of the prominence of the actuarial profession. In 1987-88, 43 students completed the Life Contingencies sequence, double the size of classes before the boon times!

**The 1990s**

To help fill the huge gap left by the retirements of Schuette and Hickman in 1992, Professor Virginia R. “Jenny” Young, F.S.A., joined the faculty in the fall of 1993. Professor Young received her Ph.D. in algebraic topology from the University of Virginia in 1983. She then spent two years doing postdoctoral work at the prestigious Institute for Advanced Study at Princeton. Following this, she spent four years at Cumberland College, a small teaching college in Kentucky, “giving back” to the institution where she received her undergraduate degree in mathematics. Following three years of insurance industry experience in Wausau, Wisconsin, she joined us in 1993 and served the program for 10 years, until her departure in 2003.

Professor Marjorie A. “Margie” Rosenberg, F.S.A., joined the business school faculty in fall of 1994. Professor Rosenberg received her Ph.D. in statistics and management science from the University of Michigan in 1994. Prior to her doctoral program at Michigan, she spent 11 years working in the insurance industry. Effective fall of 1996, Professor Rosenberg joined the medical school through the Department of Biostatistics and Medical Informatics and now holds an appointment in both the business school and medical school. Margie has served as the actuarial club advisor during most of her time on the faculty.
Going Forward

We now offer five purely “actuarial courses”: our interest theory class; a year-long sequence in actuarial mathematics (that we still think of as “contingencies,” just without the life part); and a year-long sequence in frequency, severity, and risk models. Our curriculum prepares students for the first four actuarial exams, and provides background for the later exams. Class sizes for the two year-long sequences are at about 35, a very comfortable number for both faculty and students (smaller classes are nice for everyone, but in today’s economic budget-slashing environment, smaller classes are at risk of being cut...too risky for actuaries!).