Actuarial Science Courses (ACT SCI)

TO MEET ANY COURSE PREREQUISITE, GRADE OF C- OR HIGHER IS REQUIRED IN THE PREREQUISITE COURSE.

Courses

ACT SCI 3731 (800:146). Actuarial Examination Preparation — 3 hrs.
Strengthening student skills solving computational problems similar to those included on actuarial examinations. Analyzing and practicing appropriate choice of problem solving techniques and strategies. May be repeated for credit for preparation for different examinations. (Fall and Spring)

ACT SCI 3780/5780 (800:145g). Mathematics of Finance — 3 hrs.
Measurement of interest, annuities, yield rates, amortization and sinking funds, bonds, term structure of interest rates, interest rate sensitivity, stocks and derivatives, elements of risk management. Prerequisite(s): MATH 1420 (800:060); junior standing. (Same as MATH 3780/5780 (800:145g)) (Spring)

ACT SCI 3790. Introduction to Actuarial Science — 1 hr.
Fundamental concepts of actuarial science; actuarial areas of practice; connections between coursework and actuarial practice; key competencies for actuaries, development of computing and communications skills in the context of actuarial science. Prerequisite(s): ACT SCI 3780/5780 (800:145g)/MATH 3780/5780 (800:145g). (Variable)

ACT SCI 4735/5735 (800:153g). Actuarial Mathematics — 3 hrs.
Survival distributions and life tables, life insurance, life annuities, benefit premiums. Prerequisite(s): MATH 3752/5752 (800:152g); junior standing. (Even Falls)

ACT SCI 4739/5739 (800:158g). Topics in Actuarial Science — 3 hrs.
Topics from mathematics of life contingencies, risk theory, survival analysis, construction of actuarial tables, demography, gradation. May be repeated on different topic with consent of instructor. Prerequisite(s): MATH 3752/5752 (800:152g); junior standing. (Odd Springs)

ACT SCI 4785/5785 (800:197g). Introduction to Financial Engineering — 3 hrs.
Financial derivatives, option pricing, Binomial model, Black-Scholes formula, Greeks and hedging, introduction to stochastic calculus, financial model simulation, Monte-Carlo valuation. Prerequisite(s): MATH 3752/5752 (800:152g); junior standing. (Spring)

ACT SCI 4788/5788 (800:170g). Loss Models — 3 hrs.
Applied probability methods used in modeling loss. Loss distributions, aggregate loss models, credibility theory and long term models. Prerequisite(s): MATH 3752/5752 (800:152g); STAT 3775/5775 (800:174g); junior standing. (Odd Falls)