**ACTUARIAL SCIENCE (ACT SCI)**

**ACT SCI 300 — ACTUARIAL SCIENCE METHODS I**
1 credit.

Develop a knowledge of fundamental mathematical tools for quantitatively assessing risk. Emphasize the applications of these tools to problems encountered in actuarial science. Enroll Info: None
Requisites: (STAT/MATH 309, STAT 311, or STAT/MATH 431) or declared in Capstone Certificate in Actuarial Science, member of Business Exchange program. Not open to graduate students
Repeatable for Credit: Yes, for 2 number of completions
Last Taught: Fall 2018

**ACT SCI 301 — ACTUARIAL SCIENCE METHODS II**
1 credit.

Develop a knowledge of mathematical tools for quantitatively assessing financial risk. Emphasize the applications to problems encountered in actuarial science. Enroll Info: None
Requisites: (MATH/ACT SCI 303 or concurrent enrollment) or declared in Capstone Certificate in Actuarial Science or member of Business Exchange program. Not open to graduate students
Repeatable for Credit: No
Last Taught: Fall 2018

**ACT SCI/MATH 303 — THEORY OF INTEREST AND LIFE INSURANCE**
3 credits.

Application of calculus to compound interest and insurance functions; interest compounded discretely and continuously; force of interest function; annuities payable discretely and continuously; bonds and yield rates; life tables, life annuities, single and annual premiums for insurance and annuities; reserves. Enroll Info: None
Requisites: MATH 222 or 276 or member of Business Exchange program
Course Designation: Breadth - Natural Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2018

**ACT SCI 365 — CONTEMPORARY TOPICS**
1-3 credits.

Exploration of subject areas possibly to be introduced into the business curriculum. Enroll Info: None
Requisites: None
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2016

**ACT SCI 650 — ACTUARIAL MATHEMATICS I**
3 credits.

Advanced problems in the mathematical theory of life contingencies; force of mortality, laws of mortality; premiums and reserves for insurance and annuities based on a single life. Enroll Info: None
Requisites: MATH/ACT SCI 303 and (STAT/MATH 309, STAT 311, or STAT/MATH 431), or member of Business Exchange program
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2018

**ACT SCI 651 — ACTUARIAL MATHEMATICS II**
3 credits.

Continuation of ACT SCI 650. Joint life probabilities, annuities and insurances; multiple-decrement theory; pension fund mathematics. Enroll Info: None
Requisites: ACT SCI 650
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Spring 2018

**ACT SCI 652 — LOSS MODELS I**
3 credits.

Definition and selection of probability distributions appropriate for insurance data that are heavily tailed and skewed. Enroll Info: None
Requisites: (STAT/MATH 310 or STAT 312 or concurrent registration) or member of Business Exchange program
Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2018

**ACT SCI 653 — LOSS MODELS II**
3 credits.

Estimation of parameters of probability distributions appropriate for insurance data that are heavy tailed and skewed; assessment of credibility of data for ratemaking. Enroll Info: None
Requisites: ACT SCI 652 or member of Business Exchange program
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2018

**ACT SCI 654 — REGRESSION AND TIME SERIES FOR ACTUARIES**
3 credits.

Linear regression and correlation; generalized linear regression models; introduction to time series; time series model building and forecasting with focus on data of interest to actuaries. Enroll Info: None
Requisites: Junior standing and (GEN BUS 306, 704, STAT/MATH 310, or STAT 312), or member of Business Exchange program
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2018
**ACT SCI 655 — HEALTH ANALYTICS**

3 credits.

The overall goal of this course is to provide students with an introduction to the broad area of health, integrating how researchers from multiple perspectives have investigated various aspects of health, along with the hands-on practice of learning and using statistical tools to analyze these topics. Enroll Info: Junior standing and (GEN BUS 306, STAT/MATH 310 or 312)

**Requisites:** Junior standing and (GEN BUS 306, 704, STAT/MATH 310, or STAT 312); or member of Business Exchange program

**Repeatable for Credit:** No

**Last Taught:** Spring 2018

**ACT SCI 765 — CONTEMPORARY TOPICS**

1-3 credits.

Exploration of subject areas possibly to be introduced into the business curriculum. Enroll Info: None

**Requisites:** Graduate/professional standing or member of Business Exchange program

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** Yes, unlimited number of completions