Carthage Mathematics Department
Course Summary for Math 2130 Mathematics of Actuarial Science

1. Credits: 4
2. Semesters Offered: Fall
3. Text(s): *Probability for Risk Management*, any edition, by Hassett and Stewart
4. Topics Covered:
   a. Calculus review
   b. Basic Probability, Conditional Probability, and Combinatorial Probability
   c. Discrete Probability Distributions, including expected value and variance
   d. Continuous Probability Distributions, including expected value and variance
   e. Moment Generating Functions
   f. Transformations of Random Variables
   g. Joint Probability Distributions
5. Skills Enhanced:
   a. Problem solving
   b. Rapid computation and estimation
6. Sample Syllabus:
   a. Chapters 1-11 in Hassett and Stewart
7. Miscellanea
   a. An online test site is used extensively in this course
   b. This course is usually self-paced; students are encourage to work ahead of the suggested syllabus.
8. Course Goals: By the end of the course, students should be able to do the following.
   a. Solve problems that might appear on the Actuarial Exam over Probability (Exam P).
      i. Assessment: At the end of the class, students take a 20 question mock actuarial exam.
      ii. Assessment: Instructor will monitor student success on the actual actuarial exam.
   b. Study independently and effectively for future actuarial exams.
      i. Assessment: Monitor student progress on the second actuarial exam.