ST. JOHN’S UNIVERSITY
NEW YORK

THE PETER J. TOBIN COLLEGE OF BUSINESS

Department of Risk Management, Insurance & Actuarial Science

SYLLABUS

Course title: Probability
Course number: ACT 3333
Submitted: Fall 2014
Dr. Ping Wang
DEPARTMENT

Risk Management, Insurance & Actuarial Science

COURSE NAME
Probability

COURSE NUMBER
ACT 3333

COURSE DESCRIPTION

The course begins with an introduction to fundamental principles, including set functions, mutually exclusive events, independence and conditional probability. With these as a background, the calculus of probability distributions is used to study probability density functions and cumulative distribution functions. Knowledge of these basic functions then allows for the development of probabilistic properties related to the expected value, median, mode and percentiles. Finally, practical applications are emphasized in the study of Moment Generating Functions and the Central Limit Theorem.

PRE- OR CO-REQUISITE
ACT 3322

CREDIT

3 credit hours

OBJECTIVES OF THIS COURSE

A thorough understanding of the topics covered will prepare students, together with ACT 3322, for actuarial exam P of Society of Actuaries.

TOPICAL MODULES

I. Introduction (2 weeks)
   i. Counting for probability
   ii. Elements of probability
II. Discrete Random Variables (3-4 weeks)
   i. Discrete random variables
   ii. Commonly used discrete distributions
   iii. Applications

III. Continuous Random Variables (3-4 weeks)
   i. Continuous random variables
   ii. Commonly used continuous distributions
   iii. Applications

IV. Multivariate distributions (3 weeks)
   i. Commonly used distributions
   ii. Applications

METHODS OF INSTRUCTION

Lectures, discussions, and exercises.

SUGGESTED STUDENT PERFORMANCE EVALUATION

ASSESSMENT

Student performance will be assessed on homework, quizzes, midterm exams and final cumulative exam.

All examinations and quizzes are closed book and closed notes.

TEXT BOOKS

Title: Probability for Risk Management, 2nd Edition
Authors: Matthew J. Hassett, and Donald G. Stewart
Publisher: ActexMadRiver