

ST. JOHN'S UNIVERSITY
NEW YORK

THE PETER J. TOBIN COLLEGE OF BUSINESS

Department of Risk Management, Insurance & Actuarial Science

SYLLABUS

Course title: Miscellaneous Calculus and Statistics
Course number: ACT 3322

Submitted: Fall 2014
Dr. Ping Wang

DEPARTMENT

Risk Management, Insurance & Actuarial Science

COURSE NAME

Miscellaneous Calculus and Statistics

COURSE NUMBER

ACT 3322

COURSE DESCRIPTION

This course provides the actuarial student with a final course in Calculus to complete the building of a substantial foundation upon which subsequent quantitative skills can be attained. The first half of the course presents the concepts of Sequences, Series and Multiple Integration, emphasizing applications that will be of use in other actuarial subjects. In the second half of the course, the student will be introduced to Statistical Inference. These topics are an essential part of understanding the mathematics behind a number of important actuarial tools which will be used in advanced quantitative analysis of risk.

PREREQUISITE

MTH 1730 and MTH 1740.

CREDIT

3 credit hours

OBJECTIVES OF THIS COURSE

After finishing this course, students are expected to have calculus knowledge and basic statistics concepts for advanced actuarial courses.

TOPICAL MODULES

- I. Sequences and Series (3 weeks)
 - i. Infinite Sequences and Series
 - ii. Techniques of Integration
- II. Multiple Integration (3 weeks)

- i. Double and Integrated Integrals
- ii. Triple integrals
- iii. Substitution in Multiple integrals

III. Introduction to Statistics (6 weeks)

- i. Normal distributions
- ii. Estimations
- iii. Bayesian methods
- iv. Hypothesis testing

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 and Statistical Inference, 8/E
Authors	Hogg & Tanis
ISBN	0321584759

Title	Thomas' Calculus, Early Transcendentals, 12/E
Authors	Thomas, Weir & Hass
ISBN	032173078X