

# BACHELOR OF SCIENCE WITH A MAJOR IN ACTUARIAL MATHEMATICS

## Actuarial Mathematics – Mission Statement

The Bryant Actuarial Mathematics program is designed to prepare students for success in the actuarial field. Our student-centered curriculum promotes academic excellence with a rigorous course of study that emphasizes critical thinking, problem solving, statistical analysis skills, and strong business acumen.

### MAJOR IN ACTUARIAL MATHEMATICS OBJECTIVES

#### Students who complete the Actuarial Mathematics major will:

- Demonstrate competence in the fundamental probability tools for assessing risk quantitatively.
- Demonstrate a basic understanding of the theory of interest, pension and insurance systems.
- Demonstrate competence in relevant statistical software.
- Demonstrate effective consulting skills (problem solving, oral and written presentations).

This Actuarial Mathematics major provides a foundation of analytical and communication skills that enables graduates to seek a career as an actuary or in actuarial related fields such as insurance, pensions, banking, and other financial service organizations. The combination of a strong mathematical foundation and a strong business and liberal arts background provides students with the necessary skills to succeed in these fields. Courses include advanced topics such as Interest Theory, Actuarial Mathematics, Advanced Probability and Statistics, and Pension Fundamentals.

### ACTUARIAL MATHEMATICS LEARNING GOALS

#### The Actuarial Mathematics program prepares students for success in the actuarial field by promoting the following learning goals:

- Coursework that prepares students for at least four exams given by the Society of Actuaries with an expectation that a student will successfully complete two exams by graduation.
- Coursework that requires a minor in a business discipline that develops leadership, communication, and teamwork skills, enabling the student to secure one or more actuarial internships prior to graduation.
- Coursework that emphasizes statistical skills and allows the student to complete the SAS Certification program.
- Coursework that emphasizes strong computer skills for business applications.

## Bachelor of Science with an Actuarial Mathematics Major Degree Requirements:

### General Education Requirements

\*\* Actuarial Mathematics Majors will take Math 121 instead of Math 110 and AM 230 instead of Math 201 to meet the General Education requirements.

## University Minor Requirements Actuarial Mathematics Major Requirements:

### Required Courses:

AM 230	Actuarial Statistics I (Course can be used in place of MATH 201 in Gen Ed)	3
AM 231	Actuarial Statistics II	3
AM 332	Actuarial Statistics III	3
AM 340	Mathematical Interest Theory I	3
AM 342	Mathematical Interest Theory II	3
AM 421	Life Contingencies I	3
MATH 226	Linear Algebra	3
MATH 354	Software Application for Mathematics	3
<b>One Exam Seminar from the following: <sup>1</sup></b>		
AM 393	Exam P Seminar	2
AM 394	Exam FM Seminar	2
AM 492	Advanced Actuarial Mathematics Seminar Exam LTAM	2
AM 493	Advanced Actuarial Mathematics Seminar STAM	2
<b>Choose 3 Advanced Topics in Actuarial Mathematics from the following:</b>		
AM 333	Advanced Probability	3
AM 422	Life Contingencies II	3
AM 423	AI Application in Insurance	3
AM 440	Actuarial Mathematical Models and Stochastic Calculus	3
AM 451	Pension Fundamentals	3
AM 471	Fundamentals of Property and Casualty Reserving	3
AM 481	Rate-making	3

### Business Minor Requirement

#### Electives

<sup>1</sup> Any student who passes two professional actuarial exams will be able to waive the two credit exam seminar preparation course requirement. The student must show evidence to the Department Chair that two exams were successfully completed to obtain the waiver.

A minimum of 35 credit hours is required for the major.

A minimum of 122 credit hours required for graduation.