

# Actuarial Science MS

---

## FOX SCHOOL OF BUSINESS AND MANAGEMENT

Learn more about the Master of Science in Actuarial Science.

### About the Program

The Fox School of Business and Management has a longstanding tradition of preparing our students with the power to lead within the world of business. Actuaries specialize in the evaluation of insurance and financial risks and distinguish themselves through a combination of analytical skills, business acumen and professionalism. Temple's Actuarial Science MS program prepares students for a successful career in the field through its rigorous coursework and exceptional opportunities for professional development. Our curriculum covers multiple professional actuarial exams and can be tailored to students' interests and background.

We are recognized as a Center of Actuarial Excellence (CAE) by the Society of Actuaries (SOA) and as a Global Center of Insurance Excellence (GCIE) by the International Insurance Society. In 2020, we received the CAS University Award from the Casualty Actuarial Society, and the organization has more recently recognized the program with Gold Tier status. We participate in SOA's University Earned Credit (UEC) program, allowing students to earn credit for all five eligible actuarial exams (ALTAM, ASTAM, FAM, FM, SRM) through their coursework at Temple.

**Time Limit for Degree Completion:** 6 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program can be completed on a full- or part-time basis.

**Affiliation(s):** Research interests of Fox faculty are supported by numerous centers and institutes throughout the Fox School and Temple University.

**Accreditation:** The MS in Actuarial Science is accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

**Job Prospects:** Actuaries hold positions of responsibility with consulting firms, government insurance programs, government regulatory organizations, insurance companies and investment banks. We help prepare students for these careers through our coursework and our extensive professional development opportunities, including an on-campus actuarial career fair and a resume book. The Fox Center for Student Professional Development (CSPD) provides students with additional career coaching and professional development resources that support the job search.

**Non-Matriculated Student Policy:** This program requires the student to be matriculated in the degree program.

**Financing Opportunities:** Citizens and permanent residents of the United States are considered domestic students and are typically eligible for federal student loans and alternative loans through private lenders. The Fox School grants 5% tuition scholarships to alumni who are admitted to the program.

### Admission Requirements and Deadlines

#### Application Deadline:

##### Fall:

- December 15 – Early Admissions Deadline
- March 1 – Scholarship Deadline and International Deadline
- June 30 – Final Deadline

##### Spring:

- August 1 – Scholarship Deadline and International Deadline
- November 1 – Final Deadline

Applications are reviewed as they are received and will be considered after the deadline on a space-available basis.

APPLY ONLINE to this Fox graduate program.

#### Letters of Reference:

*Number Required:* 1

*From Whom:* Professional references from an immediate supervisor, current or past, are preferred. Academic references are acceptable.

**Bachelor's Degree in Discipline/Related Discipline:** The equivalent of a four-year U.S. baccalaureate degree from an accredited university or college is required. For three-year degrees, mark sheets must be evaluated by WES or another NACES organization.

**Statement of Goals:** Essay prompts can be found in the online application portal.

**Standardized Test Scores:**

GRE/GMAT: Required. Scores for the GRE typically fall within the following percentile ranges: 50 to 99 Verbal; 80 to 99 Quantitative. Exam P, Exam FM, Exam FAM may be accepted in place of GMAT/GRE.

Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master's degree in a country where the language of instruction is English, must report scores for a standardized test of English that meet these minimums:

- TOEFL iBT: 90
- IELTS Academic: 7.0
- Duolingo: 110
- PTE Academic: 68

**Resume:** Current resume or CV is required.

**Interview:** Candidates are invited to interview in person or virtually. Interviews are required on a case-by-case basis.

**Optional Essay:** Prompts for this optional essay can be found in the online application portal.

**Transfer Credit:** Upper-level graduate credits from an AACSB-accredited graduate business program, but not previously applied to a conferred degree, may be transferred into the MS program. The credits must be part of the required degree program at Temple University. To be transferred, the grade must be a "B" or better. The Admissions Committee makes recommendations for transferring credits to the department chair. The maximum number of credits a student may transfer is 6.

## Program Requirements

**General Program Requirements:**

*Number of Credits Required Beyond the Baccalaureate: 30*

*Required Courses:*

Code	Title	Credit Hours
<b>Core Courses <sup>1</sup></b>		
AS 5001	Actuarial Probability	3
AS 5101	Theory of Interest	3
AS 5102	Long-Term Actuarial Modeling	3
AS 5104	Short-Term Actuarial Modeling	3
AS 5108	Actuarial Analytics	3
BA 5687	Advanced Professional Development Strategies	0
RMI 5051	Managing Risk	3
Select two (2) from the following:		6
AS 5103	Advanced Long-Term Actuarial Modeling	
AS 5114	Advanced Short-Term Actuarial Modeling	
AS 5118	Advanced Actuarial Analytics	
AS 5190	Special Topics in Actuarial Science	
Select one (1) from the following:		3
RMI 5101	Managing Human Capital Risk	
RMI 5104	Managing Property and Liability Risk	
<b>Electives <sup>2</sup></b>		
Select from the following for a total of three (3) credits:		3
ACCT 5001	Accounting for Managerial and Investment Analysis and Planning	
AS 5015	Introduction to Actuarial Spreadsheets and Programming	
AS 5022	Actuarial Statistics	
AS 5103	Advanced Long-Term Actuarial Modeling	
AS 5105	Actuarial Economics	
AS 5106	Actuarial Corporate Finance	

AS 5114	Advanced Short-Term Actuarial Modeling
AS 5116	Financial Reporting for Actuaries
AS 5118	Advanced Actuarial Analytics
AS 5126	Option Pricing
AS 5182	Independent Study <sup>3</sup>
AS 5190	Special Topics in Actuarial Science
AS 5191	Mentored Research <sup>3</sup>
AS 5685	Actuarial Internship
ECON 8001	Microeconomic Analysis
ECON 8002	Macroeconomic Analysis
ECON 8009	Econometrics I
ECON 8129	Time Series Econometrics
ECON 8139	Panel Data Econometrics
HCM 5101	Health Systems Organization and Development
HCM 5103	Financial Management of Healthcare Organizations
MKTG 5001	Marketing Management/Strategy
MKTG 5618	Quantitative Pricing and Revenue Analytics
RMI 5101	Managing Human Capital Risk
RMI 5102	Retirement Plans
RMI 5104	Managing Property and Liability Risk
RMI 5108	Managing International Risk
STAT 5602	Visualization: The Art of Numbers and the Psychology of Persuasion
STAT 5603	Statistical Learning and Data Mining
STAT 5607	Advanced Business Analytics
STAT 8101	Stochastic Processes
STAT 8108	Applied Multivariate Analysis I
STAT 8114	Survival Analysis I
STAT 8115	Nonparametric Methods

**Total Credit Hours****30**

<sup>1</sup> If the student has passed an actuarial exam prior to taking its corresponding course, the course must be waived:

- Passing the ALTAM exam waives AS 5103 Advanced Long-Term Actuarial Modeling.
- Passing the ASTAM exam waives AS 5114 Advanced Short-Term Actuarial Modeling.
- Passing the FAM-L or LTAM exam waives AS 5102 Long-Term Actuarial Modeling.
- Passing the FAM-S or STAM exam waives AS 5104 Short-Term Actuarial Modeling.
- Passing the FM exam waives AS 5101 Theory of Interest.
- Passing the SRM exam waives AS 5108 Actuarial Analytics.
- Passing the P exam waives AS 5001 Actuarial Probability.

Any waived course is replaced by an elective from the list above. Alternately, students may, on a case-by-case basis, select another course to replace the waived course provided that the course has sufficient academic rigor, is beneficial to the student's career, and is approved by the Academic Director.

<sup>2</sup> With prior approval from the Academic Director, students may select alternate courses as electives.

<sup>3</sup> Selection of AS 5182 or AS 5191 requires prior approval from the Academic Director.

**Culminating Event:** Successful completion of coursework is required to earn the MS degree in Actuarial Science.

## Accelerated Programs

Undergraduate students may opt to pursue an accelerated +1 program, enabling them to complete both a bachelor's degree and master's degree in less time than the traditional route.

The accelerated pathway for the Actuarial Science MS is open to all undergraduate students who meet the admissions criteria.

**Cohort Code:** XMSACSCI

Minimum Cumulative GPA: 3.25

## Graduate Courses Approved to Count for Both Undergraduate and Graduate Degrees

Code	Title	Credit Hours
AS 5101	Theory of Interest	3
AS 5105	Actuarial Economics	3
AS 5106	Actuarial Corporate Finance	2
RMI 5101	Managing Human Capital Risk	3
RMI 5104	Managing Property and Liability Risk	3

## Suggested Academic Plan

Course	Title	Credit Hours
<b>Year 3</b>		
<b>Fall</b>		
AS 5101	Theory of Interest	3
<b>Credit Hours</b>		<b>3</b>
<b>Spring</b>		
AS 5106	Actuarial Corporate Finance	2
<b>Credit Hours</b>		<b>2</b>
<b>Year 4</b>		
<b>Fall</b>		
RMI 5104	Managing Property and Liability Risk	3
<b>Credit Hours</b>		<b>3</b>
<b>Spring</b>		
RMI 5101	Managing Human Capital Risk	3
<b>Credit Hours</b>		<b>3</b>
<b>Total Credit Hours</b>		<b>11</b>

## Alternate Suggested Academic Plan

**Note:** Students without a B- grade or better in microeconomics and/or macroeconomics will take the following curriculum path.

Course	Title	Credit Hours
<b>Year 3</b>		
<b>Fall</b>		
AS 5101	Theory of Interest	3
<b>Credit Hours</b>		<b>3</b>
<b>Spring</b>		
AS 5105	Actuarial Economics	3
<b>Credit Hours</b>		<b>3</b>
<b>Year 4</b>		
<b>Fall</b>		
AS 5106	Actuarial Corporate Finance	2
<b>Credit Hours</b>		<b>2</b>
<b>Spring</b>		
RMI 5104 or RMI 5101	Managing Property and Liability Risk or Managing Human Capital Risk	3
<b>Credit Hours</b>		<b>3</b>
<b>Total Credit Hours</b>		<b>11</b>

## Admissions Criteria

Candidates to the +1 program must:

- meet the general +1 program admissions criteria:
  - possess a minimum GPA of 3.25 in at least 45 credits of coursework.
  - apply in spring semester of sophomore year. Junior year applicants will be considered for all programs assuming they meet other eligibility criteria.
  - be able to complete junior and senior years within four full-time semesters.
  - possess 12 credits of elective space to be used for graduate coursework. Candidates with less elective space will be considered with the understanding that they will therefore have more than 18 credits remaining to complete the master's degree.
  - be able to complete a graduate degree in the year directly following undergraduate graduation.
- complete three calculus courses with a minimum B- grade in each course.
- complete a probability course (covering discrete and continuous probability distributions) with a minimum B- grade.
- provide two letters of recommendation from Temple faculty.

**Application:** [https://fox.az1.qualtrics.com/jfe/form/SV\\_a9vvymYpuGaWY8I](https://fox.az1.qualtrics.com/jfe/form/SV_a9vvymYpuGaWY8I)

## Contact Information

Rachel Carr  
[rachel.carr@temple.edu](mailto:rachel.carr@temple.edu)

Learn more about the accelerated Actuarial Science program.

## Contacts

### Program Web Address:

<https://www.temple.edu/academics/degree-programs/actuarial-science-ms-bu-as-ms>

### Department Information:

Fox School of Business and Management  
1801 Liacouras Walk  
701 Alter Hall (006-22)  
Philadelphia, PA 19122  
[foxinfo@temple.edu](mailto:foxinfo@temple.edu)  
215-204-5890  
215-204-7678  
Fax: 215-204-1632

### Submission Address for Application Materials:

<https://apply.temple.edu/FOX/Account/Login>

### Department Contacts:

*Academic Director:*  
Thorsten Moenig  
[moenig@temple.edu](mailto:moenig@temple.edu)  
215-204-2805

*Specialized Master's Programs Coordinator:*  
Rachel Carr  
Senior Associate Director for Specialized Master's Programs  
[foxms@temple.edu](mailto:foxms@temple.edu)  
215-204-7678