

# ACTUARIAL SCIENCE, MINOR

Actuarial science is the quantitative analysis of risk. In addition to mathematics and statistics courses, students in actuarial science take classes in finance, economics and computer programming.

At many universities, actuarial sciences is housed in the business department. We believe that the most successful actuaries have an extensive foundation in mathematics and in the broader liberal arts, and therefore our program is housed in our Department of Mathematical Sciences.

While you will take several business classes, you will also be heavily exposed to the broader context in which risk exists in our lives. Through economics courses and other courses in the social sciences and humanities, you will see how actuarial science is not practiced in a vacuum but has real-life implications and impact on businesses, individuals, and communities as a whole.

Students interested in actuarial science should make every effort to prepare themselves in high school by taking four years of challenging math classes. Ideally, students will enter college ready to start in the first semester of calculus.

As students progress in our program, they begin to take the professional exams required of actuaries, making themselves more attractive job candidates. Our location in Milwaukee, the largest city in Wisconsin and home to many large and small companies, also gives our students easier access to internships and part-time jobs compared to smaller cities. If you are looking for more advanced training beyond the bachelor's level, explore our Master's of Science in Mathematical Sciences (<http://uwm.edu/math/graduate/programs/ms-program/>). In this program, you can obtain graduate-level training in actuarial science.

## Requirements

Students must complete at least 9 upper-division (numbered 300 and above) credits for the minor in residence at UWM. The College of Letters & Science requires that students attain at least a 2.0 GPA on all credits in the minor attempted at UWM. In addition, students must attain a 2.0 GPA on all minor credits attempted, including any transfer work.

Code	Title	Credits
<b>Admission Courses</b> <sup>1</sup>		
One of the following calculus sequences (or an equivalent)		8-12
MATH 231 & MATH 232 & MATH 233	Calculus and Analytic Geometry I and Calculus and Analytic Geometry II and Calculus and Analytic Geometry III	
MATH 211 & MATH 212	Survey in Calculus and Analytic Geometry I and Survey in Calculus and Analytic Geometry II	
<b>Required Courses</b>		
ACTSCI 290	Introduction to Actuarial Science	3
ACTSCI 391	Investment Mathematics I	4
MATH 234 or MATH 240	Linear Algebra and Differential Equations Matrices and Applications	3-4
MTHSTAT 361	Introduction to Mathematical Statistics I	3

MTHSTAT 362	Introduction to Mathematical Statistics II	3
BUS ADM 450	Intermediate Finance <sup>2</sup>	3
<b>Total Credits</b>		<b>27-32</b>

<sup>1</sup> Admission to the minor requires a minimum GPA of 2.500 in these courses or an equivalent course sequence. Students who have completed these courses with the required GPA may complete a formal declaration of minor at the department office. These courses do not count in the minor GPA.

<sup>2</sup> BUS ADM 450 should be completed with a grade of B- or better.

## Letters & Science Minor Advising

Advising for the minor takes place within the department by a faculty member or staff member. Follow the steps using the "Declare a Minor" button on the department's website which may include instructions on how to select a faculty advisor if there is more than one to choose from.

Students who already have an L&S college advisor because their degree plan is in L&S can discuss the minor with them as well since they will be familiar with any minor in L&S. Students who are working on a degree from a UWM college other than the College of Letters & Science will not need an L&S college advisor for just a minor and one will not be assigned. These students should work with the faculty or staff advisor they receive as part of the minor declaration process or contact the department directly for assistance.

Applicants who have not started classes at UWM yet who wish to declare a minor should wait until they are registered for their first UWM classes and then can declare the minor using the "Declare a Minor" button on the program's website. If you have questions about the minor before then, contact [let-sci@uwm.edu](mailto:let-sci@uwm.edu).