

# STATISTICS, ACTUARIAL SCIENCE, BS

## Bachelor of Science in Statistics, Actuarial Science (347003BS)

In addition to providing students with a solid background in Statistics, the Actuarial Science option prepares students for careers in the actuarial field.

The following information has official approval of **The Department of Statistics** and **The Buchtel College of Arts & Sciences**, but is intended only as a supplemental guide. Official degree requirements are established at the time of transfer and admission to the degree-granting college. Students should refer to the Degree Progress Report (Stellic) which is definitive for graduation requirements. *Completion of this degree within the identified time frame below is contingent upon many factors, including but not limited to: class availability, total number of required credits, work schedule, finances, family, course drops/withdrawals, successfully passing courses, prerequisites, among others.* The transfer process is completed through an appointment with your academic advisor.

**Three year accelerated option:** for first time students who have earned credits for at least the first year of courses. Credits can be earned through qualifying scores on appropriate Advanced Placement (AP) exams or through [College Credit Plus Program \(CCP\)](#) courses. Credits for qualifying AP scores or [CCP](#) courses are determined by the appropriate academic department. Departments may assign varied course credit, depending on the student's score on an AP exam or [grade in a CCP](#) course. Students may also receive credit by examination or via placement tests, where appropriate.

## Requirements Summary

Code	Title	Hours
	General Education Requirements ( <a href="https://bulletin.uakron.edu/undergraduate/general-education/">https://bulletin.uakron.edu/undergraduate/general-education/</a> )	36
	College of Arts & Sciences Requirements	8
	Statistics Core	36
	Actuarial Science Requirement	21-24
	Statistics Elective	3
	Additional Credits for Graduation *	16-13
<b>Total Hours</b>		<b>120</b>

\* Bachelor's degrees require a minimum of 120 credit hours for graduation.

Note: A 2.0 cumulative GPA in all statistics is required for graduation.

Note: 14 credits in the major must be completed at The University of Akron

## Recommended General Education Courses

Code	Title	Hours
Students pursuing a bachelor's degree must complete the following General Education coursework. Diversity courses may also fulfill major or Breadth of Knowledge requirements. Integrated and Applied Learning courses may also fulfill requirements in the major.		
Students are not required to enroll in the specific courses listed below. However, to facilitate successful degree completion, the academic department strongly encourages completion of the following recommendations.		
<b>Academic Foundations</b>		<b>12</b>
<i>Mathematics, Statistics and Logic: 3 credit hours</i>		
MATH 221	Analytic Geometry-Calculus I	
MATH 222	Analytic Geometry-Calculus II	
STAT 261 & STAT 262	Introductory Statistics I and Introductory Statistics II	
<i>Speaking: 3 credit hours</i>		
<i>Writing: 6 credit hours</i>		
<b>Breadth of Knowledge</b>		<b>22</b>
<i>Arts/Humanities: 9 credit hours</i>		
<i>Natural Sciences: 7 credit hours</i>		
<i>Social Sciences: 6 credit hours</i>		
ECON 244	Introduction to Economic Analysis or ECON 200 Principles of Microeconomics	
<b>Diversity</b>		
Domestic Diversity		
Global Diversity		
<b>Integrated and Applied Learning</b>		<b>2</b>
<i>Select one class from one of the following subcategories:</i>		
Complex Issues Facing Society		
Capstone		
<i>Review the General Education Requirements page for detailed course listings.</i>		
<b>Total Hours</b>		<b>36</b>

## College of Arts & Sciences Requirements

Code	Title	Hours
<b>Degree requirements for this Bachelor of Science in Arts &amp; Sciences include the demonstration of ability to use another language by completion of the first year of a foreign language.</b>		
<i>1 Year Language Proficiency</i>		<i>8</i>
101	Beginning I	
102	Beginning II	
SLPA 222	Survey of Deaf Culture in America (American Sign Language option only)	

**Students must also complete a minimum of 40 credits (excluding workshops) consisting of either:**

Upper-level (300/400) courses both in and outside of the student's major;

or other courses outside the major department approved by the student's major department chair (permission should be obtained prior to enrollment); these may not include workshops

## Statistics Core

Code	Title	Hours
MATH 221	Analytic Geometry-Calculus I	4
MATH 222	Analytic Geometry-Calculus II	4
MATH 223	Analytic Geometry-Calculus III	4
CPSC 200 or CPSC 209	Programming for Data Science <sup>1</sup> Computer Science I	4
STAT 451	Theoretical Statistics I	3
STAT 452	Theoretical Statistics II	3
STAT 461 or STAT 261 & STAT 262	Applied Statistics <sup>2</sup> Introductory Statistics I and Introductory Statistics II	4
STAT 462	Applied Regression and ANOVA	4
STAT 480	Statistical Data Management	3
STAT 495	Statistical Consulting <sup>3</sup>	3
<b>Total Hours</b>		<b>36</b>

<sup>1</sup> CPSC 200 is recommended for BS Statistics/Actuarial Science majors, unless the student plans to take Computer Science II.

<sup>2</sup> Either STAT 250 or STAT 260 may be used in place of STAT 261.

<sup>3</sup> Three credits of STAT 495 Statistical Consulting are required. It is recommended that students take two credits in one semester and one credit in another semester.

## Actuarial Science Requirements

Code	Title	Hours
ECON 244 or ECON 200 & ECON 201	Introduction to Economic Analysis Principles of Microeconomics and Principles of Macroeconomics	3-6
STAT 471	Introduction to Actuarial Science	3
ACCT 201	Accounting Principles I	3
FIN 301	Principles of Finance	3
FIN 343 or RMI 414 or RMI 415	Investments Risk Management: Property and Casualty Risk Management: Life and Health Insurance	3
Choose two courses from the following three		6
STAT 472	Actuarial Models	
STAT 477	Time Series Analysis	
STAT 484	Introduction to Machine Learning	
<b>Total Hours</b>		<b>21-24</b>

## Statistics Elective

Code	Title	Hours
<b>Select three credits of 400 level Statistics electives:</b>		<b>3</b>
STAT:4xx		
<i>The following courses do not satisfy this requirement:</i>		
STAT 401	Probability and Statistics for Engineers	
STAT 461	Applied Statistics	
<b>Total Hours</b>		<b>3</b>

## Recommended Sequence

1st Year		
Fall Semester		Hours
MATH 221	Analytic Geometry-Calculus I	4
ENGL 111	English Composition I	3
	Social Science Requirement	3
	Beginning Foreign Language I	4
<b>Hours</b>		<b>14</b>
Spring Semester		Hours
MATH 222	Analytic Geometry-Calculus II	4
ENGL 112	English Composition II	3
STAT 471	Introduction to Actuarial Science	3
	Beginning Foreign Language II	4
	Speaking Requirement	3
<b>Hours</b>		<b>17</b>
2nd Year		
Fall Semester		Hours
MATH 223	Analytic Geometry-Calculus III	4
STAT 461	Applied Statistics	4
ECON 244	Introduction to Economic Analysis	3
ACCT 201	Accounting Principles I	3
	General Elective	3
<b>Hours</b>		<b>17</b>
Spring Semester		Hours
STAT 462	Applied Regression and ANOVA	4
	General Elective	3
	Domestic Diversity Requirement	3
CPSC 200	Programming for Data Science	4
FIN 301	Principles of Finance	3
<b>Hours</b>		<b>17</b>
3rd Year		
Fall Semester		Hours
STAT 451	Theoretical Statistics I	3
	Arts/Humanities Requirement	3
	Natural Science Requirement	3
STAT 480	Statistical Data Management	3
RMI 414 or RMI 415 or FIN 343	Risk Management: Property and Casualty or Risk Management: Life and Health Insurance or Investments	3
<b>Hours</b>		<b>15</b>
Spring Semester		Hours
STAT 452	Theoretical Statistics II	3
STAT 477 or STAT 472 or STAT 484	Time Series Analysis <sup>1</sup> or Actuarial Models or Introduction to Machine Learning	3
	Arts/Humanities Requirement	3
	Global Diversity Requirement	3
	General Elective	3
<b>Hours</b>		<b>15</b>

**4th Year**

**Fall Semester**

STAT 495	Statistical Consulting	1
	Complex Issues Requirement	3
	Natural Science with lab Requirement	4
	General Elective	3
<b>Hours</b>		<b>11</b>

**Spring Semester**

STAT 472	Actuarial Models <sup>1</sup>	3
or STAT 477	or Time Series Analysis	
or STAT 484	or Introduction to Machine Learning	
STAT 495	Statistical Consulting	2
	General Elective	3
	Arts/Humanities Requirement	3
	Upper Level Statistics Elective	3
<b>Hours</b>		<b>14</b>
<b>Total Hours</b>		<b>120</b>

<sup>1</sup> Two of the three must be completed.