

STATISTICS, DATA SCIENCE, BS

Bachelor of Science in Statistics, Data Science (347004BS)

The Data Science track is designed to provide students with skills needed to work with the "big data" problems that arise in business and industry, government, and medical research.

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.

Requirements Summary

Code	Title	Hours
	General Education Requirements (https://bulletin.uakron.edu/undergraduate/general-education/)	36
	College of Arts & Sciences Requirements	8
	Statistics Core	36
	Data Science Requirements	12
	Statistics Elective	6
	Additional Credits for Graduation *	22
Total Hours		120

* 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.		
Academic Foundations		12
	<i>Mathematics, Statistics and Logic: 3 credit hours</i>	
MATH 221	Analytic Geometry-Calculus I	

MATH 222	Analytic Geometry-Calculus II	
MATH 223	Analytic Geometry-Calculus III	
STAT 261 & STAT 262	Introductory Statistics I and Introductory Statistics II	
	<i>Speaking: 3 credit hours</i>	
	<i>Writing: 6 credit hours</i>	
Breadth of Knowledge		22
	<i>Arts/Humanities: 9 credit hours</i>	
	<i>Natural Sciences: 7 credit hours</i>	
	<i>Social Sciences: 6 credit hours</i>	
Diversity		
	Domestic Diversity	
	Global Diversity	
Integrated and Applied Learning		2
	<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>	
Total Hours		36

College of Arts & Sciences Requirements

Code	Title	Hours
Degree requirements for this Bachelor of Science in Arts & Sciences include the demonstration of ability to use another language by completion of the first year of a foreign language.		
	<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 ¹ / 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 ² / 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 ³	3
Total Hours		36

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

² Either STAT 250 or STAT 260 may be used in place of STAT 261.

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

Data Science Electives

Code	Title	Hours
Choose any four of the following 3-credit courses		
CPSC 445	Introduction to Bioinformatics	
STAT 477	Time Series Analysis	
STAT 483	Advanced Statistical Computing	
STAT 484	Introduction to Machine Learning	
STAT 485	Applied Analytics-Decision Trees	
ISM 324	Database Management for Information Systems	
Total Hours		12

Statistics Elective

Code	Title	Hours
Select six credits of 400-level Statistics electives:		6
STAT:4xx		
<i>The following courses are not permitted to satisfy this requirement:</i>		
STAT 401	Probability and Statistics for Engineers	
STAT 461	Applied Statistics	
Total Hours		6

Recommended Sequence

1st Year		Hours
Fall Semester		
MATH 221	Analytic Geometry-Calculus I	4
ENGL 111	English Composition I	3
	Social Science Requirement	3
	Beginning Foreign Language I	4
Hours		14
Spring Semester		
MATH 222	Analytic Geometry-Calculus II	4
ENGL 112	English Composition II	3
	Social Science Requirement	3
	Beginning Foreign Language II	4
	Speech Requirement	3
Hours		17
2nd Year		
Fall Semester		
MATH 223	Analytic Geometry-Calculus III	4
STAT 461	Applied Statistics	4
	General Elective	3
	Arts/Humanities Requirement	3
Hours		14

Spring Semester

STAT 462	Applied Regression and ANOVA	4
CPSC 200	Programming for Data Science	4
	General Elective	3
	Domestic Diversity Requirement	3
	Natural Science Requirement	3
Hours		17

3rd Year

Fall Semester

STAT 451	Theoretical Statistics I	3
STAT 480	Statistical Data Management	3
	Arts/Humanities Requirement	3
	Natural Science Requirement/Lab	4
	General Elective	3
Hours		16

Spring Semester

STAT 452	Theoretical Statistics II	3
	Data Science Elective	3
	Arts/Humanities Requirement	3
	Global Diversity Requirement	3
	Upper Level Elective	3
Hours		15

4th Year

Fall Semester

STAT 495	Statistical Consulting	2
	Data Science Elective	3
	Data Science Elective	3
	Upper Level Statistics Elective	3
	Complex Issues Requirement	3
Hours		14

Spring Semester

STAT 495	Statistical Consulting	1
	Upper Level Statistics Elective	3
	Data Science Elective	3
	General Elective	3
	General Elective	3
Hours		13
Total Hours		120