

Bachelor of Science in Statistics 347000BS

The following information has official approval of the **Department of Statistics**, 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. *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.

Italicized courses fulfill General Education requirements. Unless a course is specified, refer to the General Education guide at http://www.uakron.edu/advising/docs/General_Education_Guide.pdf.

1 st Year	Fall Semester	Credit Hours	Prerequisites
	<i>English Composition I Requirement (Note a)</i>	3	Appropriate placement by advisor
	<i>Physical Education/Wellness Requirement</i>	1	
	<i>Social Science Requirement</i>	3	
	Beginning Foreign Language I (Note b)	4	Appropriate placement by advisor
7700:101	-OR- American Sign Language I	or 3	
3450:221	Analytic Geometry & Calculus I	4	3450:149 with a grade of C- or better or equivalent
Total		14-15	

1 st Year	Spring Semester	Credit Hours	Prerequisites
7600:105 or 7600:106	<i>Public Speaking</i> -OR- <i>Effective Oral Communication</i>	3	
	<i>English Composition II Requirement (Note a)</i>	3	3300:111 or equivalent
	<i>Social Science Requirement</i>	3	
	Beginning Foreign Language II	4	Beginning Foreign Language I
7700:102	-OR- American Sign Language II	or 3	or 7700:101
3450:222	Analytic Geometry-Calculus II	4	3450:221 with a grade of C- or better or equivalent
Total		16-17	

2 nd Year	Fall Semester	Credit Hours	Prerequisites
7700:201	Intermediate Language I -OR- American Sign Language III	3	Beginning Language II or 7700:102
	<i>Natural Science Requirement</i>	4	
3450:223	Analytic Geometry-Calculus III	4	3450:222 with a grade of C- or better
3470:461	Applied Statistics	4	3450:222 or equivalent
Total		15	

2 nd Year	Spring Semester	Credit Hours	Prerequisites
7700:202 7700:222	Intermediate Language II -OR- American Sign Language IV -AND Survey of Deaf Culture in America	3 or 3 2	Beginning Language II or 7700:201 Sign Language students only
3450:312	Linear Algebra	3	3450:223 with a grade of C- or better
3470:462	Applied Regression and ANOVA	4	3470:431 or equivalent
	<i>Natural Science Requirement</i>	4	
Total		14-16	

3 rd Year	Fall Semester	Credit Hours	Prerequisites
3400:210 or 3400:221	<i>Humanities in the Western Tradition</i> -OR- <i>Humanities in the World Since 1300</i>	4	32 credits & 3300:112 or equivalent
3470:451	Theoretical Statistics I	3	3450:223
3460:209	Intro to Computer Science	4	3450:145 or 3450:149 or equivalent with a C-

			or better
	Area of Concentration Elective (Note c)	3	
	General Elective (Note d)	3-4	
Total		17-18	

3rd Year Spring Semester

	<i>Area Studies/Cultural Diversity Requirement</i>	2	
	<i>Humanities Requirement</i>	3	3400:210 or 3400:221
3470:452	Theoretical Statistics II	3	3470:451 and 3450:223
	General Elective (Note d)	3-4	
	Area of Concentration Elective (Note c)	3	
Total		14-15	

4th Year Fall Semester

3470:480	Statistical Data Management	3	3470:461
	Area of Concentration Elective (Note c)	3	
3470:xxx	Statistics Elective	3	
	<i>Humanities Requirement</i>	3	3400:210 or 3400:221
	<i>Area Studies/Cultural Diversity Requirement</i>	2	
Total		14	

4th Year Spring Semester

3470:495	Statistical Consulting	2-3	3470:480 or permission
	Upper Level Electives (Note d)	9	
	General Electives (Note d)	6-7	
Total		17-19	

	Minimum Credits for Degree	128	
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ALERT: 1) By the end of your first 48 credit hours attempted, you should have completed your General Education English, Math, and Oral Communication (Speech) requirements; 2) By the end of your first 48 credit hours attempted, you should have declared a major and transferred to (been accepted by) a degree granting college at The University of Akron.

NOTES:

- For English Composition I, 3300:111 (English Composition I) or 3300:113 (African-American Language and Culture I) are the recommended classes to meet the General Education English Requirement. 2020:121 (English) fulfills the English Composition I requirement. For English Composition II, 3300:112 (English Composition II) or 3300:114 (African-American Language and Culture II) are the recommended classes to meet the General Education English requirement. 2020:222 (Technical Report Writing) fulfills the English Composition II requirement.
- Demonstration of ability to use another language by completion of the second year of a foreign language or sign language is required. See your advisor for placement. Please note that all four semesters must be completed in the SAME language and it's recommended you begin your first language class as soon as possible.
- Complete 9 credits of coursework outside the major and beyond the General Education requirements in a suitable area of concentration (Psychology, Sociology, Economics, Math, etc.) as approved by the department. At least one 3 credit elective must be an approved Statistics course.
- General electives can be any course not already required by your major and upper level (300/400) electives can be any course in or outside your major excluding General Education courses and workshops.

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IN GENERAL: The world is becoming more quantitative. The need to gather and interpret data is increasing in every field of study – business, education, engineering, government, behavioral and social sciences, and industry. As a result, the demand for qualified statisticians is on the rise. People from almost any discipline can improve their marketability and productivity through training in statistics. The Department of Statistics at The University of Akron provides an excellent opportunity for statistical study through faculty who has expertise in data analysis, probability, mathematical statistics, experimental design, regression analysis,

design and analysis of surveys, nonparametric statistics, robust statistics, statistical computer application, statistical quality control, actuarial science, and biostatistics.

JOB DESCRIPTION:

I. Teaching - Job openings in teaching exist in junior high and high schools, in community or junior colleges, and in colleges and universities. These three have different requirements as to degree levels and subject matter taken as electives.

II. Industry – In recent years, the field of statistics has enjoyed a period of renewed vigor, due to an increased demand for effective means to analyze data. Industrial statisticians are in demand, and it is estimated that three-fourths of them need training beyond a Bachelor's degree. Many courses of a theoretical nature are needed, but the primary concern of a statistician in industry is to design and analyze the experiments to improve the quality of goods and services. Particular types of jobs include consulting, research, computing, and teaching and it is very desirable to have collateral training in engineering or business administration.

III. Government – How many people are unemployed this month? What do we export to China, and what do we import? Are rates of violent crime increasing or decreasing? Government wants data on issues like these to guide policy, and government statistical agencies provide them by surveys of households and businesses? Are consumer tastes in television programs changing? What are promising locations for new retail outlet? Market researchers use both government data and their own surveys to answer questions like these. Statisticians design the elaborate surveys that gather data for both public and private use.

III. Actuarial profession - This is not primarily a mathematical profession; but it does require a competent mathematical and statistical ability, adequate economic and financial knowledge and wide social information. Most actuaries are hired by life insurance companies, and their primary concern is with calculating premium rates and preparing tables of death rates. However, there are casualty and fire actuaries and consulting actuaries; the latter is often involved with pension plans, retirement, and welfare. A Bachelor's degree is very useful, and a broad cultural foundation is helpful. Actuarial examinations do not require work in pure mathematics.

IV. Job Description - One of the areas of greatest demand for statisticians is the field of biostatistics. Biostatistics is the application of statistical methods to scientific research in biology and health-related fields, and the development of new statistical tools to study these areas. Health care, medicine, pharmaceuticals, biotechnology, bioinformatics, and environmental science are all sectors in which there is a strong demand for biostatisticians.

V. Salary Level - The starting salary range for various degree levels depends on the job category, the employer, and the job locale. It appears to fluctuate with the cost of living; there is no particular starting salary. Statisticians in with a bachelor degree in industry can expect to earn in the range of \$2,500-\$4,000 per month.

PLACEMENT:

A student is encouraged to check with his/her major department and with the Career Center, Student Union 211, (330) 972-7747, regarding employment opportunities in the field.

TRANSFER TO COLLEGE OF ARTS & SCIENCES: Students should apply to the college upon the attainment of:

- ✓ a cumulative GPA of 2.0 or better (includes transfer coursework until 30 credits are earned at UA)
- ✓ a major GPA of 2.0 or better (includes transfer coursework until 30 credits are earned at UA)
- ✓ 30 credits completed including both required English composition courses and 3 credits of mathematics or statistics that meets the General Education requirement

A student can arrange their inter-college transfer through an appointment with his/her advisor in the Center for Academic Advising & Student Success, Simmons 205, (330) 972-7430, or Center for Academic Advising & Student Success, Simmons 301, (330) 972-5723 or College of Applied Science and Technology, Polsky 301, (330) 972-7220, depending upon the advising office in which they reside.

COLLEGE OF ARTS & SCIENCES:

Degree requirements in Arts & Sciences include the demonstration of ability to use another language by completion of the second year of a foreign language or sign language and a minimum of 47 credits of upper level courses (excluding workshops and General Education courses) consisting of either:

- Upper Level (300/400) courses both in and outside the student's major
- Any courses outside the major department as specified in and approved by the student's major department chair (permission should be obtained prior to enrollment) except workshops and General Education courses

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