Statistics and Data Science

Statistics — as a core discipline focusing on data-driven discovery, understanding, and decision-making — is rapidly evolving and advancing in the data science era. The new Department of Statistics and Data Science (SDS) strives to be a world-class department with outstanding scholars who will transform the university's intellectual community not only through their own activities and achievements but also through synergistic collaborations with existing faculty and departments across Arts & Sciences, the McKelvey School of Engineering, and all of the other schools at the university.

SDS offers two master's degree programs in statistics and one doctoral degree in statistics. Our master's and PhD graduates regularly secure competitive positions at universities, at government institutions, and as statisticians and data scientists in industry. One of the most attractive features of our program is the friendly and supportive atmosphere that develops among our graduate students.

PhD in Statistics

Students ordinarily complete the PhD program in five years. Students typically spend their first two years (four semesters) taking graduate courses. At the end of this time, they will have completed requirements for the master's degree. Students ordinarily start the process of finding a dissertation advisor and start their research during their second year.

A student who comes to Washington University with advanced preparation may finish in less time. Alternatively, some students find that it is advisable for them to take some preparatory courses before attempting the qualifying courses.

Master of Arts in Statistics

SDS offers two Master of Arts (MA) programs. The Accelerated BA/MA in Statistics is available only to qualified Washington University undergraduates. The standalone MA in Statistics is available to all qualified students from any field.

Our programs equip students with a strong foundation in statistical thinking and data analysis to prepare them for a wide range of professional pathways, including roles in industry, government, and research, as well as for further graduate study, including PhD programs in statistics, biostatistics, data science, and related fields. The program is open to students from diverse academic backgrounds and provides flexibility for students to shape their academic experience based on their individual goals.

A hallmark of the program is its balance between rigorous core training and flexibility in elective coursework. Students benefit from the opportunity to explore interdisciplinary courses and engage with advanced topics that align with their career interests. Those seeking additional academic challenges can immerse themselves in more advanced offerings and research opportunities.

The program also emphasizes practical experience through internships or research collaborations, providing hands-on training that complements classroom learning and enhances career readiness.

The Accelerated BA/MA in Statistics for Washington University undergraduates enables highly motivated students to begin graduate-level training during their undergraduate years and complete both degrees in a streamlined format. The accelerated program is ideal for students with clear academic and professional goals who are ready to engage in an intensive, fast-paced curriculum. Because of the fast-paced nature of this option, students interested in the accelerated program are encouraged to plan ahead and take advanced coursework during their undergraduate studies to ensure they are well prepared for the graduate-level curriculum. Students enrolled in this accelerated program are expected to have backgrounds comparable to the students admitted to the regular MA program.

Overview of Faculty Research

The interdisciplinary interests of our faculty span a broad range of areas including the application of statistics and data science to medicine, finance, environmental sciences, and technology. Research interests of our faculty include the following:

- Bioinformatics
- Bootstrap methodology
- Environmental statistics
- Functional data analysis
- High-dimensional statistics
- Statistical computing for massive data
- Mathematical and statistical finance
- Model selection and post-selection inference
- Network analysis
- Objective Bayes
- Robust statistics
- Statistical and machine learning
- Time series and spatial statistics

Contact:	José E. Figueroa-López
Email:	sdsadvising@wustl.edu
Website:	https://sds.wustl.edu/