

The mission of the **Department of Statistical Science at Baylor University** is to provide quality statistics instruction at all levels, to make significant contributions to the discovery and to develop, within a Christian environment, ethical scholars, skilled professionals, and educated leaders who are sensitive to the needs of society. The department seeks to develop well-rounded statisticians through meaningful mentorships, diversified educational experiences, and scholarly research methods and opportunities.

PROGRAM OPTIONS

Statistical Science offers four graduate degrees. Students admitted to the Ph.D. earn the traditional M.S. as they work toward the Ph.D. without any loss of time towards the Ph.D. Students in the Ph.D. program can earn a concentration in Biostatistics or Data Science (or both) by taking courses designated for those concentrations.

- **M.S.B.A.** This 36-hour professional degree is offered jointly with the Hankamer School of Business. The degree is offered both in-person and online. The required courses are a mix of statistics and information systems courses with options for electives in other business areas.
- **Professional M.S.** Students must complete 36 semester hours, including 15 hours of statistics core requirements, 21 approved elective hours, and a capstone project. Graduates are prepared with the intention of entering the workforce, not a statistics Ph.D. program.
- **Traditional M.S.** Students must complete 36 graduate hours, including 15 statistics core hours, and 21 approved elective hours. Graduates are prepared to enter the workforce or a statistics Ph.D. program.
- **Doctor of Philosophy** Students must complete 75 graduate hours including 27 statistics core hours, 36 approved elective hours, and 9 hours of dissertation work, followed by a successful dissertation defense. All students admitted to the Ph.D. program are offered full tuition and a competitive stipend.

CAREER OPPORTUNITIES

The occupation of statistician is one of the top 10 fastest growing jobs in the U.S. With an advanced degree in statistics, students can choose careers in corporate, industrial, government, or academic settings. Currently, alumni work as analysts or research scientists for organizations like Eli Lilly & Co., Pacific Northwest National Laboratory, the Mayo Clinic, and Baylor Scott and White Health. Others are employed by the U.S. Food and Drug Administration (FDA), Microsoft, Google, Apple, Zelus Analytics, and Pacific Northwest Labs. Alumni also have successful academic careers at universities including the University of Southern California, Wake Forest, Syracuse University, United States Military Academy, Belmont University, University of Tennessee at Martin, and Shippensburg University.

RESEARCH HIGHLIGHTS

Our department is known for its advanced research in Bayesian statistics, biostatistics, and environmental statistics. We are also active in collaborative research conducted by our faculty and investigators in other fields. In the last three years, students have had internships with companies and organizations, such as Johnson & Johnson, Baylor Scott & White Health, NASA's Jet Propulsion Lab, STEEP Analytics, and the San Diego Padres. We have also received multiple research funding awards from industry partners such as Eli Lilly & Co. and federal agencies such as the National Science Foundation and Department of Energy. Consulting work with other departments at Baylor as well as with external partners provides our students with experience and exposure to a wide range of fields.

FACULTY

Our faculty is comprised of talented professors who are active contributors and leaders in their fields, as evidenced by their consistency of quality publications in scholarly journals, external funding, presentations at national and international conferences, and software and database development.

**See back for list of faculty.*

CONTACT

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STATISTICAL SCIENCE GRADUATE FACULTY

Baylor.edu/statistics

JACKSON BARTH, Ph.D.

Assistant Professor

Bayesian Hierarchical Models,
Latent Variable Models,
Applications in Genomics

MICHAEL P. GALLAUGHER, Ph.D.

Assistant Professor

Clustering and Classification
Machine Learning
Multiway Data

AMANDA S. HERING, Ph.D.

Department Chair

Spatial and Space-Time Modeling
Multivariate and cluster methods
Outlier and anomaly detection
Application to the environment and
engineering

JEANNE S. HILL, Ph.D.

Undergraduate Program Director

& Senior Lecturer

Statistical Inference
Ranking and selection
Reliability

DAVID J. KAHLE, Ph.D.

Co-Graduate Program Director &

Professor

Statistical Computing and Graphics
Algebraic statistics
Bayesian computation

RAKHEON KIM, Ph.D.

Assistant Professor

Statistical learning
Personalized regression
Covariance estimation
Application to biostatistics and actuarial science

XUEYING LIU, Ph.D.

Assistant Professor

Network analysis
Multi-task learning
Uncertainty quantification

AMY B. MADDOX, Ph.D.

Co-Graduate Program Director

& Teaching Professor

Multivariate Analysis
Sampling
Regression analysis
Statistical methodology

EVA MURPHY, Ph.D.

Assistant Professor

Environmental science
Public health
Spatio-temporal statistics
Latent variable models
Causal inference

JONATHAN ODUMEGWU, Ph.D.

Clinical Assistant Professor

Neuroimaging
Genomics and genetics
Biomedical and public health
Machine learning

JOSHUA D. PATRICK, Ph.D.

Senior Lecturer

Time Series
Spatial data analysis
Nonparametric regression

JOHN W. SEAMAN, JR., Ph.D.

Professor

Bayesian Analysis
Pharmaceutical Statistics

JOON JIN SONG, Ph.D.

Professor

Spatial Statistics
Functional data analysis
Bioinformatics

JAMES D. STAMEY, Ph.D.

Associate Dean

& Professor

Bayesian Analysis
Pharmaceutical Statistics

RODNEY X. STURDIVANT, Ph.D.

Director of Consulting Center

& Professor

Logistic
Regression
Survival analysis

