STATISTICS (PH.D.)

https://nextcatalog.unh.edu/graduate/programs-study/mathematics-statistics/statistics-phd/

Description

The Ph.D. in statistics is a flexible program of coursework and research that meshes the faculty's expertise with the students' interests. Current faculty expertise are in Design of Experiments, Nonparametric Function Estimation, Model Selection, Time Series Analysis, Spatial Statistics, Bayesian Statistics, Data Mining and Large Data. Doctoral dissertations range from theoretical to applied. Interdisciplinary research is encouraged. Ph.D. students frequently work as research assistants in interdisciplinary studies, and also engage in statistical consulting.

Admission Requirement

Applicants must have completed significant undergraduate coursework in mathematics and Statistics, including basic Statistics (for example, design of experiments), the standard Calculus sequence, and Linear Algebra.

Applying

Please visit the Graduate School website for detailed instructions about applying to the doctoral program.

Requirements

Degree Requirements

Students are advanced to candidacy after meeting the following requirements:

Code	Title	Credits
Required Courses		
MATH 836	Advanced Statistical Modeling	3
MATH 839	Applied Regression Analysis	3
MATH 840	Design of Experiments I	3
MATH 855	Probability with Applications	3
MATH 856	Principles of Statistical Inference	3
Advanced Coursework in Statistics		
MATH 945	Advanced Theory of Statistics I	3
MATH 946	Advanced Theory of Statistics II	3
Select four courses from the following:		12
MATH 837	Statistical Methods for Quality Improvement and Design	
MATH 838	Data Mining and Predictive Analytics	
MATH 841	Survival Analysis	
MATH 843	Time Series Analysis	
MATH 844	Design of Experiments II	
MATH 941	Bayesian and Computational Statistics	
MATH 944	Spatial Statistics	
MATH 979	Research Topics in Statistics [1]	
Minor Coursework		
Select one of the following analysis courses:		3
MATH 867	One-Dimensional Real Analysis	
MATH 953	Analysis I	
Select two courses in a focused minor area, selected in consultation with the program advisor.		6
Total Credits		**42**

[1] MATH 979 Research Topics in Statistics is a topics course and may be repeated barring duplication of topic.

Successful completion of written qualifying examinations in theory of statistics and in applied statistics.

Successful completion of a comprehensive exam in advanced theory of statistics.

Successful completion of a dissertation proposal defense in the major field of statistics.

Dissertation

Doctor of Philosophy in Statistics: A dissertation that includes original research in statistics.

Student Learning Outcomes

- Demonstrate deep knowledge of the theoretical foundations of statistics at the advanced level.
- Conduct research that contributes to the development of statistical theory and methods.
- Demonstrate competency in a broad array of advanced statistical methodologies, including skill in statistical computing for analysis and simulation.
- Demonstrate familiarity with at least one scientific area of investigation that crucially depends on statistical methodology.