APPLIED STATISTICS, PH.D.

The Ph.D. program in Applied Statistics is a research intensive program designed for students who demand the depth in the understanding of statistical methods to solve applied problems with innovation. The techniques and skills that students learn prepare them to become professionals in a broad range of statistics-driven fields, from academia to research-based industrial settings.

The Applied Statistics professors support students interested in a diverse range of statistical topics including linear models, data mining and analytics, statistical process control, spatial statistics, longitudinal analysis, statistical computing, nonparametric and robust methods, change and anomaly detection, Bayesian inference, and statistical network analysis.

Admission Requirements

In addition to the minimum Graduate School admission requirements, to be considered for regular admission an application must include:

- A resume
- 3 letters of recommendation.
- A GRE score of at least 310 (verbal + quantitative, with a quantitative score of at least 160), a GMAT (old version) score of at least 650 and the new GMAT Focus score of at least 595.
    - Students who graduated from or are currently enrolled in the Applied Statistics, MS program at the University of Alabama are eligible for a GRE test score requirement waiver, subject to completing at least 12 credit hours in the program with a minimum of 3.8 overall GPA, including at least a grade of B in ST 554 and ST 555.
- A TOEFL score of of at least 90, an IELTS score of at least 7.0, or a PTE score of at least 59 for non-native English speakers who are required to submit an English Language test score (see admissions criteria link below).
    - Please note this program does not accept a Duolingo test score.

See the Admission Criteria section of this catalog for more information.

Curricular Requirements

Required Courses:		Hours
ST 552	Applied Regression Analy	3
ST 553	Appld Multivariate Analy	3
ST 554	Math Statistics I	3
ST 555	Math Statistics II	3
ST 560	Statistical Methods	3
ST 603	Advanced Inference	3
ST 610	Linear Models	3
ST 640	Statistical Computing	3
ST 645	Advanced Statistical Learning	3
Elective Courses		**21**
Dissertation Research Hours (ST 699 - with advisor approval, distributed appropriately throughout the program)		**24**
Total Hours		**72**

Approved Electives List

Approved MS & PhD Level Electives		Hours
MS Level Electives:		
ST 521	Statistical Data Management	3
ST 522	Adv Statistical Data Mgt	3
ST 531	Data Mining I	3
ST 532	Advanced Data Mining	3
ST 540	Stat Prog & Comp with R	3
ST 545	Intro Stat Learn & Data Mining	3
ST 561	Applied Design Expermnts	3
PhD Level Electives: must choose two courses from list below.		
ST 615	Theory Of Regression	3
ST 635	Nonparametric Statistics	3
ST 697	Special Topics (Bayesian Inference)	1-6
ST 697	Special Topics (Advanced Design of Experiments)	1-6
ST 697	Special Topics (Advanced Multivariate Analysis)	1-6
ST 697	Special Topics (Current Research Topics)	1-6
Or any other graduate level course with faculty approval		

Transfer Credit

Subject to evaluation by the PhD program committee, some coursework (but no more than 24 credit hours) may be transferred from previous graduate programs.

Graduate School Information on Transfer Credit.

Doctoral Plan of Study Requirement

Early in the graduate program, each student must confer with the appropriate departmental advisor or major professor to select courses, discuss when and by which method the doctoral residency requirement will be completed, discuss research interests, and so forth. Then a Plan of Study must be prepared and submitted to the Graduate School by the time the student has completed 30 coursework hours.

Graduate School information on the Doctoral Plan of Study.

Comprehensive Exams

Entrance and Qualifying Exam:

At the end of the first academic year, PhD students are required to take a written qualifying examination. The exam is usually administered in the end of the spring semester and is based on the required MS level courses including ST 552 Applied Regression Analy, ST 553 Appld Multivariate Analy, ST 554 Math Statistics I, ST 555 Math Statistics II and ST 560 Statistical Methods. The qualifying exam requirement may be waived for students holding an MS degree in statistics. Students interest in waiving the exam must take an entrance exam in August before the start of the fall semester. The entrance exam represents a light version of the entrance and qualifying exam that is based on major and fundamental concepts covered in the required MS level courses. Students failing the entrance exam are expected to register for MS level courses in which knowledge and skill deficiencies have been identified.

Comprehensive Exam:

At the end of the second year or upon the completion of at least four (12 credit hours) PhD level statistics classes, student must take a comprehensive exam. The goal of the exam is to assess the potential of

a student to conduct independent research. Individual research projects are assigned to students for independent work over a two-week period in April. By the end of the two-week term, student must submit a written report and present their findings at an Applied Statistics PhD seminar.

The graduate faculty assess the quality of completed projects based on the following rubrics:

- comprehensive literature review
- soundness of the proposed research approach and adequacy of future research plans
- strength of experimental support
- quality of oral presentation and ability to address questions and concerns
- quality of written report

By the end of the comprehensive exam at the latest, students are expected to find a dissertation advisor.

Admission to Candidacy Requirements

Students must pass the qualifying and comprehensive examinations to advance to candidacy.

Continuous Enrollment Policy

Graduate School Policy on Continuous Enrollment.

Dissertation Requirements

- Proposal Defense - within a year after passing the comprehensive exam, student must form a dissertation committee and present and defend their dissertation proposal. The proposal usually focuses on the already obtained findings and plans regarding research yet to be accomplished.
- Dissertation Defense - Dissertation defense is the final test that usually occurs at the end of the fourth year. A dissertation must present some original contribution to the statistics literature. A PhD candidate must present a written document acceptable to the dissertation committee and Graduate School and pass the oral dissertation defense.

Time Limit for Degree Completion Requirements

Graduate School information on Time Limits.

Academic Misconduct Information

Graduate School information on Academic Misconduct.

Withdrawals and Leave of Absence Information

Graduate School information on Withdrawals and Leave of Absence.

Academic Grievance Information

Graduate School information on Academic Grievances.

Grades and Academic Standing

Graduate School information on Grades and Academic Standing.

Graduate School Deadlines

Information on Graduate School Deadlines.

Application for Graduation

Information on the Application for Graduation.