APPLIED STATISTICS - DOCTOR OF PHILOSOPHY

The Applied Statistics doctoral program provides graduates with the knowledge of a range of applied statistical methods, both basic and advanced, sufficient to independently solve complex data problems in a collaborative research environment, to teach these methods at the undergraduate level, and to contribute substantively to the development of grant proposals and applied research publications.

Additional information regarding the Applied Statistics doctoral program is available at https://business.nmsu.edu/academic-departments/easib/.

Students entering the program with a bachelor's degree, or a master's degree in a field other than statistics, will need to complete a total of 70 credit hours – 52 credit hours of coursework and 18 credit hours of dissertation research.

As part of the required 52 credit hours of coursework, students must complete 12 credit hours of A ST electives at the 500 level or higher. Students may concentrate on a substantive area in economics, marketing, finance, or information systems by choosing quantitative electives from that area. The student's committee will determine whether these courses are acceptable substitutes for A ST electives. In addition, as part of the required 52 credit hours of coursework, students must complete 12 credit hours of A ST courses at the 600 level or higher.

Students must complete at least 18 credit hours of dissertation research. The dissertation is expected to consist of three chapters that are standalone manuscripts that may be submitted to applied journals. Additional chapters in the dissertation may provide background of the problem, literature review, and simulations to support the main topic of research. Deviation from this format will be allowed at the discretion of the student's advisor.

Students entering the program with a master's degree in statistics or biostatistics will need to complete a minimum of 36 credit hours. Eighteen of these credit hours are coursework - 12 credit hours of A ST courses at the 600 level or higher and 6 credit hours of A ST electives at the 500 level or higher, as described above. The remaining 18 credit hours consist of dissertation research, as described above. Additional coursework may be necessary to make up for deficiencies in the student's prior master's degree.

Students will be required to pass a written qualifying exam after completing at least 12 credit hours of A ST courses at the 500 level or above, typically at the end of their first year in the doctoral program. Students who enter with a master's degree in statistics or biostatistics may elect to take the qualifying exam earlier. The exam will cover the first year of required theory and methods coursework. The exam will be assigned one of three grades: PhD pass, which enables the student to continue in the second year of the doctoral program; Master's pass, indicating that the student has the requisite knowledge for the master's degree in Applied Statistics but has deficiencies that prevent them from continuing in the doctoral program; and fail. Doctoral students who fail the exam or receive a Master's pass on their first attempt will be allowed one opportunity to re-take the exam. Upon completion of their coursework (typically at the end of their third year), students in the doctoral program will be required to pass a comprehensive exam that has both oral and written components. Students who do not pass the comprehensive exam on their first attempt will be allowed a second opportunity to take the exam after a lapse of at least one semester.

Student's entering the program with a bachelor's degree or a master's degree in a field other than statistics

Prefix	Title	Credits
A ST 565	Statistical Analysis I	3
A ST 566	Statistical Analysis II	3
A ST 609	Linear Model Theory	3
A ST 665	Bayesian Theory	3
A ST 503	SAS Basics	3
or A ST 515	Statistical Analysis with R	
A ST 616	Computational Statistics	3
A ST 505	Statistical Inference I	4
A ST 506	Statistical Inference II	3
A ST 507	Advanced Regression	3
A ST 509	Statistical Models for Complex Data Structures	3
A ST 540	Predictive Analytics	3
A ST 645	Time Series Methods	3
A ST 554	Practicum in Statistics	3
Electives -- Additional A ST courses at the 500 level or higher or in other areas as determined by student's committee		12
A ST 700	Doctoral Dissertation (Dissertation)	18
Total Credits		**70**

Student's entering the program with a master's degree in statistics or biostatistics*

Prefix	Title	Credits
A ST 609	Linear Model Theory	3
A ST 665	Bayesian Theory	3
A ST 616	Computational Statistics	3
A ST 645	Time Series Methods	3
Electives -- Additional A ST courses at the 500 level or higher or in other areas as determined by student's committee		6
Doctoral Dissertation		18
A ST 700	Doctoral Dissertation	
Total Credits		36

*Additional coursework may be necessary to make up for deficiencies in the student's prior master's degree

A Suggested Plan of Study

First Year		
Fall		**Credits**
A ST 565	Statistical Analysis I	3
A ST 503 or A ST 515	SAS Basics or Statistical Analysis with R	3
A ST 505	Statistical Inference I	4
	Credits	**10**
Spring		
A ST 566	Statistical Analysis II	3
A ST 507	Advanced Regression	3
Elective		3
	Credits	**9**
Second Year		
Fall		
A ST 509	Statistical Models for Complex Data Structures	3

A ST 506	Statistical Inference II	3
Elective		3
	Credits	**9**
Spring		
A ST 616	Computational Statistics	3
A ST 540	Predictive Analytics	3
A ST 554	Practicum in Statistics	3
	Credits	**9**
Third Year		
Fall		
A ST 665	Bayesian Theory	3
A ST 609	Linear Model Theory	3
Elective		3
	Credits	**9**
Spring		
A ST 645	Time Series Methods	3
Elective		3
Dissertation research		3
	Credits	**9**
Fourth Year		
Fall		
A ST 700	Doctoral Dissertation (Dissertation)	9
	Credits	**9**
Spring		
Dissertation research		6
	Credits	**6**
	Total Credits	**70**