STATISTICS

Degree Requirements

Master of Applied Statistics (M.A.S.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-700 Professional Degree Policies (https://gradschool.psu.edu/graduate-education-policies/).

For the M.A.S. degree, a minimum of 30 credits and a minimum grade-point average of 3.0 are required for graduation. Of the 30 credits, 24 must be courses from the Statistics department and 21 must be at the 500 level. The student must complete:

Code	Title	Credits
Required Courses		
Applied Statistics		
STAT 501	Regression Methods	3
STAT 502	Analysis of Variance and Design of Experiments	3
Mathematical Statistics		
STAT 414	Introduction to Probability Theory	3
STAT 415	Introduction to Mathematical Statistics	3
Statistical Consulting		
STAT 580	Statistical Consulting Practicum I	2
Electives		
To complete the remaining credit requirements, a student can select 9-15 credits from the following applied statistics courses:		9-15
STAT 464	Applied Nonparametric Statistics	
STAT 480	Introduction to SAS	
STAT 500	Applied Statistics	
STAT 503	Design of Experiments	
STAT 504	Analysis of Discrete Data	
STAT 505	Applied Multivariate Statistical Analysis	
STAT 506	Sampling Theory and Methods	
STAT 507	Epidemiologic Research Methods	
STAT 509	Design and Analysis of Clinical Trials	
STAT 510	Applied Time Series Analysis	
In addition, students with suitable backgrounds may choose up to 6 credits from a departmental list of additional courses with approval from their adviser.		0-6
Culminating Experience		
STAT 581	Statistical Consulting Practicum II (Capstone Project) [1]	1
Total Credits		**30**

[1] For all M.A.S. students, the STAT 581 course will have a comprehensive written project report required as part of the course, which serves as the culminating experience.

Master of Science (M.S.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (https://gradschool.psu.edu/graduate-education-policies/)

For the M.S. degrees, a student must complete at least 30 credits at the 400, 500, 600, or 800 level, including at least 27 at the 500 or 600 level and a minimum of 6 credits of thesis research (600 or 610); 21 of the 27 500-level credits must be formal course work from the Department of Statistics. A student must complete:

Code	Title	Credits
Required Courses		
Applied Statistics		
STAT 511	Regression Analysis and Modeling	3
STAT 512	Design and Analysis of Experiments	3
Mathematical Statistics		
STAT 513	Theory of Statistics I	3
STAT 514	Theory of Statistics II	3
Stochastic Processes		
STAT 515	Stochastic Processes and Monte Carlo Methods	3
Statistical Consulting		
STAT 580	Statistical Consulting Practicum I	2
STAT 581	Statistical Consulting Practicum II	1
Electives		
6 credits of electives		6
Culminating Experience		
STAT 600	Thesis Research	6
or STAT 610	Thesis Research Off Campus	
Total Credits		**30**

The student must also pass a written master's qualifying examination taken at the end of the first year. The thesis must be accepted by the advisers, a second reader, the head of the graduate program, and the Graduate School.

Doctor of Philosophy (Ph.D.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (https://gradschool.psu.edu/graduate-education-policies/)

The Department of Statistics requires a minimum total of 48 postbaccalaureate credits for the Ph.D. At least 42 credits, exclusive of the dissertation, must be in Statistics. Course work accepted for the M.S. in Statistics at Penn State will count toward the department's 48-credit requirement. In the case of students who have earned credits in an advanced degree program at another university or in another department at Penn State, a maximum of 24 credits may count toward the 48-credit departmental requirement, subject to departmental approval.

For the Ph.D. degree, a student in Statistics must complete at least 48 credits, of which at least 42 must be STAT and at most three credits can be at the 400 level.

Code	Title	Credits
Required Courses		
Core Course Requirements		
STAT 511	Regression Analysis and Modeling	3
STAT 512	Design and Analysis of Experiments	3
STAT 513	Theory of Statistics I	3
STAT 514	Theory of Statistics II	3
STAT 515	Stochastic Processes and Monte Carlo Methods	3
STAT 553	Asymptotic Tools	3
Additional Courses		

STAT 517	Probability Theory	3
STAT 561	Statistical Inference I	3
STAT 580	Statistical Consulting Practicum I	2
STAT 581	Statistical Consulting Practicum II	1
STAT 590	Colloquium	2
STAT 592	Teaching Statistics	1
Electives		
Select 18 credits of the following:		18
STAT 518	Probability Theory	
STAT 544	Categorical Data Analysis I	
STAT 552	Linear Models II	
STAT 562	Statistical Inference II	
STAT 565	Multivariate Analysis	
Other courses approved by the Graduate Studies Committee		
Total Credits		**48**

Doctoral students must pass a qualifying examination, a comprehensive written and oral examination, and a final oral examination (the dissertation defense). To earn the Ph.D. degree, doctoral students must also write a dissertation that is accepted by the Ph.D. committee, the head of the graduate program, and the Graduate School.