STATISTICS (MS, PHD)

The Department of Statistics offers programs leading to Master of Science (M.S.) in Statistics and Doctor of Philosophy (Ph.D.) degrees. (The Department also offers a Professional M.S. in Biostatistics). All programs include training in statistical application and theory, and give students sufficient flexibility to pursue their special interests as well as time to take courses in other departments at the University of Connecticut.

Master of Science

The M.S. in statistics program normally requires 31 credits. While it is possible to complete the M.S. degree within a year, most students will need three to four semesters. The core courses of the program cover mathematical statistics, linear models, design of experiments, and applied statistics. The program also requires one to two courses in areas of application. The plan of study may be formulated with related work in almost any area, e.g., Biology, Economics, Nutrition, and Psychology. Students are encouraged to participate in statistical consulting projects done by members of the Department. To make acceptable progress through the program, three semesters of calculus and a semester of linear algebra in college are necessary. A background in statistics will be helpful, but is not assumed.

Master of Science Required Courses

Course	Title	Credits
STAT 5505	Applied Statistics I	3
STAT 5515	Design of Experiments	3
STAT 5545	Mathematical Statistics I	3
STAT 5555	Mathematical Statistics II	3
STAT 5605	Applied Statistics II	3
STAT 5725	Linear Models I	3
STAT 5091	Statistics Internship	1-3
or STAT 5094	Seminar in Statistics	
The elective courses normally should consist of four additional courses, two to three in statistics and one to two from other departments.		12

The final requirement is passing the Master's Examination which is a written test on basic understanding of course materials. There is no thesis requirement. In order to be considered for a possible switch to the Ph.D. program or for financial support, a M.S. in Statistics student must first clear the Ph.D. Qualifying Examination.

Doctor of Philosophy

The Ph.D. program emphasizes development of the ability to generate novel results in statistical methods, statistical theory, or probability. Individuals with a Bachelor's degree in any major, with a background in mathematics and statistics are encouraged to apply. The course work typically consists of at least 16 graduate level courses that cover a wide range of topics, including mathematical statistics, linear models, statistical inference, applied statistics, real analysis, and probability. After completing the necessary course work and a sequence of examinations, a Ph.D. candidate must complete a dissertation that makes an original contribution to the field of statistics or probability. The dissertation may be predominantly development of novel statistical methodology for an area of application.

Doctor of Philosophy Requirements

For students entering the program after a Bachelor's Degree, typically 16 to 18 courses are required. An individual plan of study is developed by the student and their Advisory Committee. Knowledge of a sequence of core courses is required for all Ph.D. students. These courses are:

Course	Title	Credits
STAT 5091	Statistics Internship	1
or STAT 5094	Seminar in Statistics	
STAT 5505	Applied Statistics I	3
STAT 5515	Design of Experiments	3
STAT 5545	Mathematical Statistics I	3
STAT 5555	Mathematical Statistics II	3
STAT 5605	Applied Statistics II	3
STAT 5725	Linear Models I	3
STAT 5735	Linear Models II	3
STAT 6315	Statistical Inference I	3
STAT 6325	Advanced Probability	3
STAT 6515	Statistical Inference II	3
STAT 6894	Seminar in the Theory of Probability and Stochastic Processes	3
Total Credits		**34**

Additional credits can be earned from the list of elective courses. In general, Ph.D. students are required to elect one to two courses from other departments. However, it is sufficient to take one graduate level course from the Department of Mathematics. Each elected course must be approved by the major advisor of a student. Under certain circumstances, the major advisor can exempt the student from the above requirement, if the student has had internships or Research Assistantships in interdisciplinary areas. The Department has no requirement on foreign languages. The first formal requirement for the Ph.D. degree is passing the Ph.D. Qualifying Examination which is a written test on certain basic courses. The second requirement is passing the General Examination that consists of an oral test on aspects of Applied Statistics, Linear Models, Probability Theory and Statistics and a presentation of a thesis research proposal. The preparation of a dissertation then follows which must present an original contribution to the general area of Statistics and/or Probability. The final requirement is a defense of the Ph.D. dissertation before an audience of interested members of the Department. The Department expects every Ph.D. student to strive to finish their study within four years. For students arriving without a M.S. degree in Mathematics or Statistics, the Department may provide up to five years of financial support. For those arriving with such a degree, the Department may provide up to four years of financial support.