APPLIED STATISTICS, MS

Contact

Applied Statistics program director:
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Faculty

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A graduate program in applied statistics leading to a master's degree is administered by the interdisciplinary Statistics Program. This program includes professors from computer and information science, education, engineering, management, mathematics, psychology, and the social sciences, among others. This program is distinguished from other graduate programs in statistics by its emphasis on applications. The interdisciplinary program in statistics is based in the College of Arts and Sciences, but welcomes students from all schools and colleges at Syracuse University. Included among these may be students who are pursuing other degrees, but might wish also to pursue the M.S. degree in statistics.

Admission

All applicants are expected to have a basic foundation in statistical training that includes one course in introductory statistics, one course in regression analysis, and four courses in applications areas. Graduate Record Examination scores, or their equivalent, and performance in a student's undergraduate degree program will be carefully evaluated.

Applicants who are not currently enrolled in any program at Syracuse apply for admission to the Applied Statistics Master's degree program through https://www.syracuse.edu/admissions/graduate/apply/ by March 15. Students who are currently enrolled at Syracuse University should contact Professor Pinyuen Chen at pinchen@syr.edu for further information.

Student Learning Outcomes

1. Basic Probability: Concepts and skills in working with basic probability formulas
2. Working knowledge of one computing technique from the list: MATLAB, MINITAB, R, SAS, and SPSS and the interpretation of its computing outputs
3. Data analysis ability in one of the following subjects: regression analysis, design of experiment, survey sampling, contingency table, engineering
4. Statistical application in one of the following areas: biology, computer science, earth science, environmental science, communications, economics, engineering, forestry, geography, public affairs, political science, management, psychology, sociology, and social work

M.S. Degree

The master's degree in applied statistics requires completion of 33 graduate credits. Each candidate must submit a coherent program of 11 courses beyond the bachelor's degree, subject to the following requirements.

Within the first semester after admission to the degree program, the students will plan their course of study in consultation with their advisors and submit it for approval to the Statistics Program Director.

In order to graduate, a student must earn:

1. at least a 3.0 grade in each of the four core courses,
2. a GPA of 3.0 or better in this program of study leading to the M.S. in applied statistics, and
3. no more than two Cs in his/her statistics program coursework.

The absence of either a comprehensive final examination or a master's thesis is compensated for by an additional 3 credits of coursework, represented by STT 690 Independent Study or STT 750 Statistical Consulting / MAT 750 Statistical Consulting, whose objective is to apply knowledge of statistics to some real world problem.

Code	Title	Credits
Core Courses		
All candidates for the degree program must complete the following set of four core courses (12 credits):		
MAT 521	Introduction to Probability (students with a strong mathematics background are to take MAT 651)	3
MAT 525	Mathematical Statistics (students with a strong mathematics background are to take MAT 652)	3
Select one of the following:		3
STT 750	Statistical Consulting	
MAT 750	Statistical Consulting	
For those students who do not include STT 750/MAT 750 in their programs of study, STT 690 should be taken and it should have a significant consulting component.		
Any one of the following courses in regression Analysis:		3
MAT 654	Linear Models	
PSY 757	Multiple Correlation and Regression	
MAS 766	Linear Statistical Models I: Regression Models	
SOC 714	Intermediate Social Statistics	
ECN 621	Econometrics I	
PAI 810	Advanced Seminar: Policy and Administration	
Graudte Courses		
Select four courses from the following list:		12
Design of Experiments		
PSY 756	Experimental Design and Statistical Methods II	
PSY 853	Experimental Design and Statistical Tests	
APM 620		
Sampling Theory		
APM 625		
Multivariate Methods		
PSY 857	Multivariate Analysis	
APM 635		
SOC 813	Advanced Social Statistics	
PAI 721	Introduction to Statistics	
PAI 722	Quantitative Analysis	
PAI 730	Problems in Public Administration	
PSC 794	Advanced Quantitative Political Analysis	

MAT 755	Multivariate Statistical Analysis	
Time Series Modeling and Analysis		
MAS 777	Time Series Modeling and Analysis	
Stochastic Processes/Markov Processes		
MAT 526	Introduction to Stochastic Processes	
ECE 756	Random Processes	
Statistical Simulation and Nonstandard Data Analysis		
MAT 653	Statistical Simulation and Nonstandard Data Analysis	
Topics in Statistics		
MAT 850	Topics in Statistics	
Advanced Probability I and II		
MAT 721	Probability I	
MAT 722	Probability II	
Statistical Ranking, Selection, and Multiple Comparisons		
MAT 752	Statistical Ranking, Selection, and Multiple Comparisons	
Spatial Statistics		
GEO 686	Quantitative Geographic Analysis	
Econometrics		
ECN 620	Foundations of Econometrics	
ECN 622	Econometrics II	
ECN 720	Topics in Econometrics	
Statistical Consulting		
STT 750	Statistical Consulting	
MAT 750	Statistical Consulting	
Remaining Credits		
The remaining 9 credits, selected in consultation with the student's advisor, should:		9
1. emphasize statistical applications, or		
2. involve consulting or advisement about statistical applications.		
Total Credits		**33**

Degree

Master of Science in Applied Statistics