APPLIED STATISTICS GRADUATE CERTIFICATE

Banner Code: EC-CERG-ASTA

Phone: 703-993-4835
Email: statistics@gmu.edu
Website: statistics.gmu.edu

This graduate certificate trains students in data analysis and statistical methodology. It provides a clear record of additional instruction in statistics for future graduate programs or employers.

The General Concentration is intended to complement PhD and MS programs outside the Department of Statistics. It is also intended to be responsive to the needs of those who teach or work in government/industry and want to increase their knowledge of statistics. The certificate emphasizes the application of statistical tools, not theory. As such, there are no required prerequisite math courses, although one semester of calculus is strongly recommended.

The Federal Statistics Concentration is targeted at upgrading the skills of current practitioners. The federal statistical system is a complex data collection and analysis system that requires a wide variety of multidisciplinary skills for its maintenance. The Federal Statistics Certificate is intended to respond to the need for broad training in statistics, survey methods, and data analysis, including graphics and data visualization. The program is extremely flexible and can be tailored to the needs of students within the federal statistical sector. It is also intended to be responsive to the needs of those in state and local governments, and those in the private sector involved in the collection, interpretation, or statistical analysis of federal data.

Admissions & Policies

Admissions

General Concentration

Applicants should have an undergraduate degree from an accredited institution, with a minimum overall GPA of at least 3.00 (on a 4.00 scale). Applicants are expected to have basic computer literacy. Successful completion of an undergraduate course in statistics is required for admission. One semester of calculus is strongly recommended.

Federal Statistics Concentration

Applicants should have an undergraduate degree from an accredited institution, with a minimum overall GPA of at least 3.00 (on a 4.00 scale) and have taken at least one course in calculus and one course in linear algebra. These minimal course requirements are normally satisfied by students who have successfully completed courses equivalent to the following Mason courses: MATH 113 (https://catalog.gmu.edu/search/?P=MATH%20113) Analytic Geometry and Calculus I (Mason Core) (https://catalog.gmu.edu/mason-core/), and MATH 203 Linear Algebra, or MATH 321 Abstract Algebra. Candidates must also be computer literate.

Policies

For policies governing all graduate certificates, see AP.6.8 Requirements for Graduate Certificates (http://catalog.gmu.edu/policies/academic/graduate-policies/#ap-6-8).

Requirements

Certificate Requirements

Total credits: 12

This certificate may be pursued on a part-time basis only.

Concentration in General (GEN)

Coursework

Code	Title	Credits
Select 12 credits from the following list:		12
STAT 515	Applied Statistics and Visualization for Analytics	
STAT 517	Experimental Design	
STAT 522	Applied Multivariate Statistics	
STAT 525	Nonparametric Statistics and Categorical Data Analysis	
STAT 526	Applied Regression Analysis	
STAT 532	Introduction to Statistical Software Packages	
STAT 535	Analysis of Experimental Data [1]	
STAT 539	Topics in Applied Statistics	
STAT 560	Biostatistical Methods	
STAT 574	Survey Sampling I [2]	
STAT 674	Survey Sampling II	
Total Credits		12

1

STAT 535 is the prerequisite for all other courses besides STAT 574 and STAT 674. A student with sufficient background in statistics may seek a waiver of the STAT 535 prerequisite from the appropriate course instructor.

2

Enrollment in STAT 574 requires special permission from the course instructor.

Concentration in Federal Statistics (FSS)

Some courses may have prerequisites beyond minimal admission requirements for which students must qualify or seek a waiver from the course instructor.

Coursework

Code	Title	Credits
Select 9 credits from the following list: [1]		9
STAT 544	Applied Probability	
STAT 554	Applied Statistics I	
STAT 560	Biostatistical Methods	
STAT 574	Survey Sampling I	
STAT 654	Applied Statistics II	
STAT 657	Nonparametric Statistics	
STAT 658	Time Series Analysis and Forecasting	

STAT 662	Multivariate Analysis and Statistical Learning	
STAT 663	Statistical Graphics and Data Visualization	
STAT 665	Categorical Data Analysis	
STAT 674	Survey Sampling II	
Total Credits		**9**

[1]

All of these certificate courses may be used for credit toward the Statistical Science, MS (http://catalog.gmu.edu/colleges-schools/engineering-computing/school-computing/statistics/statistical-science-ms/).

Electives

Code	Title	Credits
Select 3 credits of electives from the following:		3
STAT 500	Special Topics	
STAT 515	Applied Statistics and Visualization for Analytics	
STAT 517	Experimental Design	
STAT 522 - 778 (http://catalog.gmu.edu/courses/stat/)		
Total Credits		3