APPLIED STATISTICS GRADUATE CERTIFICATE

Please click here to see the Mathematical and Statistical Sciences department information.

Introduction

There is a growing need for qualified statistical analysts of the ever-increasing amounts of data collected in business, industry, and government. The Certificate in Applied Statistics program is designed to give students a strong background in statistical methodology and data analysis in preparation for opportunities in the workforce or for graduate studies.

Students will gain competence in such topics as descriptive statistics, estimation, confidence intervals, probability and inferential techniques, simple and multiple regression, analysis of variance, and more advanced topics. Students can focus on a particular application area such as economics, psychology, sociology, geology, or environmental science through the choice of an elective course and the data analysis project.

The certificate requires 12 credits of coursework split across 4 courses. The certificate requires 2 courses related to statistical theory and regression, 1 statistics elective, and 1 other elective. Students can complete the certificate in 1-2 years depending on their knowledge coming into the program and the number of courses they take each semester.

These degree requirements are subject to periodic revision by the academic department, and the College of Liberal Arts and Sciences reserves the right to make exceptions and substitutions as judged necessary in individual cases. Therefore, the College strongly urges students to consult regularly with their Applied Statistics faculty advisor to confirm the best plans of study before finalizing them.

Graduate Education Policies and Procedures apply to this program.

Certificate Requirements

1. Students must complete a minimum of 12 credit hours from approved courses.
2. Students must complete a minimum of 12 graduate (5000-level or higher) credit hours.
3. Students must earn a minimum grade of B- (2.7) in all courses taken at CU Denver and must achieve a minimum cumulative certificate GPA of 3.0. Students cannot complete program or ancillary course requirements as P+/P/F or S/U.
4. Students must complete all coursework with CU Denver faculty.

Certificate Restrictions, Allowances and Recommendations

1. Students must be enrolled in one course per year to maintain their status in the certificate program.
2. Certificates must be completed within three years from matriculation.

Courses

Students must complete the following coursework:

Code	Title	Hours
Core courses		
MATH 5320	Statistical Inference	3
MATH 5387	Applied Regression Analysis	3
Statistics elective		*3*
Three additional credit hours (typically, one course) from the following choices:		
MATH 5337	Intro to Statistical and Machine Learning	
MATH 5388	Machine Learning Methods	
MATH 6380	Stochastic Processes	
MATH 6384	Spatial Data Analysis	
MATH 6388	Statistical and Machine Learning	
MATH 7393	Bayesian Statistics	
MATH 7826	Topics in Probability and Statistics	
Any additional MATH course pre-approved by the Director of Statistical Programs		
Other elective		*3*
Three additional credit hours (typically, one course) from the following choices:		
Any statistics course in the Department of Mathematical and Statistical Sciences at the 5000 level or higher (must be pre-approved by the Director of Statistical Programs). MATH 5830 cannot apply for the certificate		
ECON 5150	Economic Forecasting	
ECON 5813	Econometrics I	
ECON 5823	Econometrics II	
ENVS 5600	Applied Statistics for the Natural Sciences	
SOCY 5183	Seminar: Quantitative Data Analysis	
An equivalent course pre-approved by the Director of Statistical Programs		
Total Hours		**12**

To learn more about the Student Learning Outcomes for this program, please visit our website (https://clas.ucdenver.edu/mathematical-and-statistical-sciences/program-goals-objectives-certificate-statistics/).