## ANALYTICS CERTIFICATE ONLINE

A certificate program in Analytics is intended for students with a bachelor degree who want to gain technical skills in data mining and big data analytics.

## **Required Courses**

Course	Title	Quarter Hours
DSC 423	DATA ANALYSIS AND REGRESSION	
DSC 430	PYTHON PROGRAMMING	
DSC 441	FUNDAMENTALS OF DATA SCIENCE	
DSC 450	DATABASE PROCESSING FOR LARGE- SCALE ANALYTICS	
DSC 465	DATA VISUALIZATION	

A student in a certificate program may not use a course already taken as part of an MS program. In particular, students with an MS from CDM may not reuse, for certificate credit, any course already taken for the MS. A faculty advisor can make an appropriate substitution. A student in a certificate program may substitute a maximum of two (2) courses.

A student must earn at least C- in each of the five (5) courses and earn a cumulative GPA of at least 2.5 to receive the certificate.

Students who do not have a background in statistical inference, linear algebra and programming will be required to take up to three (3) introductory courses.

## **Introductory Courses**

Course	Title	Quarter Hours
CSC 401	INTRODUCTION TO PROGRAMMING	4
CSC 412	TOOLS AND TECHNIQUES FOR COMPUTATIONAL ANALYSIS	4
IT 403	STATISTICS AND DATA ANALYSIS	4

Introductory courses can be waived by prior coursework, work experience or successful completion of a Graduate Assessment Examination (GAE) in the Introductory Course area.