

# DATA ANALYTICS - MASTER OF DATA ANALYTICS (ONLINE)

The admission requirements for the degree program requires incoming students to have a minimum mathematical preparation at the level of Linear Algebra (MATH 2415 Introduction to Linear Algebra or equivalent course, such as E E 200 Linear Algebra, Probability and Statistics Applications).

The curriculum for the degree program is composed of 34 graduate credits.

Prefix	Title	Credits
<b>Foundation</b>		
C S 453	Python Programming I	3
or C S 454	Python Programming II	
A ST 511	Statistical Methods for Data Analytics <sup>can be replaced by (A ST 505 and A ST 507)</sup>	3
Select one of the following courses		3
C S 458	R Programming I	
A ST 515	Statistical Analysis with R	
<b>Methodologies</b>		
C S 508	Introduction to Data Mining	3
C S 519	Applied Machine Learning I	3
or E E 565	Machine Learning I	
Select one of the following courses		3
C S 502	Database Management Systems I	
BCIS 575	Database Management Systems	
ICT 458	Web Development and Database Applications	
<b>Advanced Topics and Applications</b>		
Choose nine credits from the following:		9
A ST 555	Applied Multivariate Analysis	
A ST 616	Computational Statistics	
C S 454	Python Programming II	
C S 460	Computer Science I Transition	
C S 463	Introduction to Data Structures Transition	
ASTR 630	Advanced Methods in Astrophysics	
BCIS 566	Business Analytics II	
BIOL 566	Advanced Bioinformatics and NCBI Database	
C S 506	Computer Graphics I	
or ICT 460	Advanced Software Development Concepts	
C S 509	Bioinformatics Programming	
C S 516	Bioinformatics	
C S 582	Database Management Systems II	
E E 596	Digital Image Processing	
I E 545	Characterizing Time-Dependent Engineering Data	
or BCIS 561	Business Analytics I	
I E 515	Stochastic Processes Modeling	
or I E 522	Queuing Systems	
I E 567	Design and Implementation of Discrete-Event Simulation	
ENGL 543	Multimedia Theory and Production	
or COMM 5220	Communication Technologies	
MATH 5220	Fourier Series and Boundary Value Problems	
or STAT 5230	Elementary Stochastic Processes	
SOCI 5150	Seminar in Social Networks	

SOCI 5155	Seminar in Text Analysis for the Social Sciences	
SOCI 5160	Seminar in Data Visualization	
<b>Capstone Experience</b>		
Select one of the following courses		3
C S 598	Master's Project	
MATH 5999	Master's Thesis	
A ST 596	Independent Study	
A ST 598	Special Research Problems	
BCIS 598	Independent Study	
E E 598	Master's Technical Report	
I E 599	Master's Thesis	
Internship		
<b>Total Credits</b>		<b>30</b>

## A Suggested Plan of Study

Additional classes may be needed based on placement test results and course prerequisites. Visit with an advisor for help with creating a customized plan.

<b>First Year</b>		
<b>Fall</b>		<b>Credits</b>
A ST 511	Statistical Methods for Data Analytics	3
C S 453	Python Programming I	3
C S 508	Introduction to Data Mining	3
<b>Credits</b>		<b>9</b>
<b>Spring</b>		
C S 519	Applied Machine Learning I	3
C S 458	R Programming I	3
One Elective Course from the list of Advanced Topics and Applications courses		3
<b>Credits</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
Two Elective Courses from the list of Advanced Topics and Applications courses		6
C S 502	Database Management Systems I	3
or ICT 458	or Web Development and Database Applications	
<b>Credits</b>		<b>9</b>
<b>Spring</b>		
Choose one from the capstone experience group		3
<b>Credits</b>		<b>3</b>
<b>Total Credits</b>		<b>30</b>