

# BUSINESS ANALYTICS AND DATA SCIENCE, M.S.

A Master of Science degree program in Business Analytics and Data Science is designed to prepare students for careers in the burgeoning field of data analytics. The program will develop the skills needed to gather, store, analyze and interpret large amounts of "Big Data" in order to facilitate informed business decisions. Students may elect to further focus their studies on techniques suitable to specific business disciplines such as finance, marketing, logistics and accounting. The curriculum also supports the content of the Certified Analytics Professional (CAP) examination.

## ADMISSION REQUIREMENTS

- Bachelor's degree from a nationally accredited undergraduate program.
- Recommended minimum GPA 3.0.
- Two letters of recommendation
- A personal Statement of Purpose (1000 to 2000 words), which should describe the applicant's reasons for applying to the program and ways in which his or her experience, skills, and goals are aligned with the program.
- A current resume that outlines the applicant's educational background, employment history, professional activities, and other activities.
- International students are required to take the Test of English as a Foreign Language (TOEFL) and submit an Educational Credential Evaluators (ECE), or World Education Services (WES) evaluation of international transcripts. The TOEFL requirements can be found at <http://www.njcu.edu/admissions/how-apply/english-proficiency-requirements> (<http://www.njcu.edu/admissions/how-apply/english-proficiency-requirements/>).

## PREREQUISITE REQUIREMENTS

The 33-credit course of study assumes an undergraduate degree and/or work experience in business, technology, or related disciplines. Depending on background and focus, students may be required to take the following prerequisites:

- BUSI 599 Graduate Business Essentials (9 credits)

Similar graduate courses from other institutions may be accepted with approval of the program coordinator.

Code	Title	Credits
<b>Pre-Requisite Courses (As Required):</b>		
BUSI 599	Graduate Business Essentials	9
<b>Required Core Program Courses:</b>		
FINC 514	Introduction to Business Analytics and Data Science	3
FINC 515	Programming for Business	3
FINC 520	Statistical and Mathematical Methods for Data Science	3
FINC 530	Machine Learning for Business I	3
FINC 535	Data Management	3
FINC 550	Experimental Design	3
FINC 560	Data Visualization and Communication	3

FINC 565	Time Series Modeling and Experimental Design	3
<b>Required Electives:</b>		
Elective Course:	Advisor Permission	3
Elective Course:	Advisor Permission	3
<b>Capstone Requirement:</b>		
FINC 781	Capstone Project in Data Science	3
<b>Total Minimum Credits:</b>		
		33

## Traditional Full-time Plan

This is a sample degree map only. Sample Degree Maps are based on full-time status. Full-time for graduate learners is defined as taking nine credits or more in a term. Term is defined as an academic time period during which the school holds classes. Graduate business programs are conducted in two distinct sessions of 7 weeks each during each term of fall, spring or summer. Full time graduate students may take up to 12 credits in a single term. This is a sample degree map and sequence for required course work. Individual plans may vary based on specific learner needs. Students without an undergraduate business degree or degree in a related discipline may be required to take BUSI 599 Graduate Business Essentials (9 credits).

## First Year

Term 1	Credits
FINC 514	Introduction to Business Analytics and Data Science
FINC 515	Programming for Business
FINC 520	Statistical and Mathematical Methods for Data Science
	<b>Credits</b>
	9

## Term 2

FINC 530	Machine Learning for Business I	3
FINC 535	Data Management	3
FINC 565	Time Series Modeling and Experimental Design	3
	<b>Credits</b>	9

## Term 3

FINC 550	Experimental Design	3
FINC 560	Data Visualization and Communication	3
Elective course <sup>1</sup>		3
	<b>Credits</b>	9

## Term 4

Elective Course	<sup>1</sup> With guidance of an advisor, elective may be chosen from an approved list of electives.	3
FINC 781	Capstone Project in Data Science	3
	<b>Credits</b>	6
	<b>Total Credits</b>	33

## Student Learning Outcomes

Upon completion of the Master of Business Administration with a specialization in Business Analytics program, students will be able to:

1. Identify ethical issues and understand the implications of social responsibility for sustainable business practices.

2. Evaluate information and apply critical thinking skills to identify solutions and inform business decisions.
3. Utilize technology, apply quantitative methods and interpret data to solve business problems.
4. Integrate knowledge of core business concepts and collaborate productively as part of a team.
5. Work effectively in a diverse environment and understand how global and cultural issues effect the organization and its stakeholders.
6. Compose clear and concise forms of written communication to effectively convey ideas and information associated with business topics.
7. Communicate business concepts effectively through oral presentation.