BUSINESS ANALYTICS - MASTER OF SCIENCE (MS)

The MS degree in business analytics focuses on the exciting and fast-growing field of "big data." Merging developments in marketing and customer analytics with operations research, business analytics, aspects of computer science and statistical methods, the specialization offers a technical, quantitative and statistically intensive program designed to train specialists in turning "big data" into business decisions. Analytics may be used as input for human decisions or may drive fully automated decisions about why some data pattern is observed, what will happen next and how a firm can adapt to optimize that outcome. Students have an option to customize their curriculum by specializing in decision science, healthcare analytics, marketing analytics, research analytics or security analytics.

This 10-month program includes extensive coursework and an application of materials, preparing students for a range of job opportunities. In addition to the academic coursework, four enrichment seminars in topics ranging from teamwork and leadership to ethics and corporate social responsibility support our commitment to developing the "whole student" by incorporating professional development into the academic experience.

Distance Education Option via Online+

Students may enroll in the MS Business Analytics (BUAN) or MS Supply Chain Management (SCMN) degree program through distance education (online) and complete the degree requirements established for each MS program. Distance education offers regularly scheduled on-campus graduate courses to remote off-campus (distance) students using advanced virtual and video-conferencing technology. Distance students participate both synchronously (at a scheduled delivery time) and asynchronously (no scheduled delivery time). Instructors, courses, assignments, projects, exams and evaluations are identical for on-campus and off-campus students. Online+ courses are term-based (i.e., follow the regular academic schedule) and structured to maximize student engagement with faculty and other online+ students to support student success and degree completion.

Designed for working professionals, the online option allows students to enroll part-time and follows the same curriculum as the on-campus degree option. Please see degree requirements and plan(s) of study specific to Business Analytics or Supply Chain Management. Based on circumstance and timeline to completion, students enroll in one or two courses each semester, completing the degree in two years.

Note: Online sections for Marketing Analytics and Healthcare Analytics track electives are delivered regularly; online sections for Decision Sciences and Security Analytics tracks are not guaranteed. Online academic advisors can offer further guidance.

For more information, connect with the individual graduate program directly.

Requirements

Required Courses and Credits

Code	Title	Credit Hours
Core Courses		
MSBC 5070	Survey of Business Analytics	3
MSBX 5410	Fundamentals of Data Analytics	3
MSBX 5415	Advanced Data Analytics	3
MSBX 5405	Structured Data Modeling and Analysis	3
MSBC 5180	Machine Learning in Python	3
MSBX 5420	Unstructured and Distributed Data Modeling and Analysis	3
MSBC 5190	Modern Artificial Intelligence: Introduction to AI for Business	3
MSBC 5490	BUAN Experiential Projects	3
Electives		
Students will enroll in three of the following track-specific electives. (See track sections below.)		9
Total Credit Hours		**33**

Experiential Projects

The experiential project pairs students with clients in industry to work on important practical problems in business analytics. Students work under the supervision of faculty and meet together weekly to discuss progress, jointly work on problems and to share experiences. This hands-on analytics project management experience prepares graduates to make an immediate meaningful contribution in the workplace.

For additional information, please visit Leeds School Graduate Programs (http://www.colorado.edu/business/ms-programs/) or email us at leedsgrad@colorado.edu.

Tracks

The MS in Business Analytics offers tracks to develop analytic skills in specific disciplines: healthcare analytics, decision science, marketing analytics, research analytics and security analytics. Learn more below and on the Plan(s) of Study tab.

Decision Science Track

Code	Title	Credit Hours
Decision Science Track Electives		
MSBC 5680	Optimization Modeling	3
MBAX 6410	Process Analytics	3
STAT 5540	Introduction to Time Series	3

Healthcare Analytics Track

Code	Title	Credit Hours
Healthcare Analytics Track Electives		
NURS 6286	Foundations of Healthcare Informatics (Fall)	3
NURS 6289	Information Systems Life Cycle (Spring)	3
MSBX 51XX	Natural Language Processing for Health Sciences (Spring)	3

Marketing Analytics Track

Code	Title	Credit Hours
Marketing Analytics Track Electives		
MBAX 6330	Market Intelligence	3
MSBX 5310	Customer Analytics	3
APRD 6342	Digital Advertising	3

Research Analytics Track

Code	Title	Credit Hours
Research Analytics Track Electives		
MSBX 5310	Customer Analytics	3
One theory and topics-focused course from the following doctoral seminars:		
MKTG 7810	Doctoral Seminar: Psychological Approaches to Research in Marketing	
MKTG 7815	Doctoral Seminar: Consumer and Managerial Decision Making in Marketing	
MKTG 7835	Marketing Strategy	
ORMG 7310	Seminar on Organizational Behavior	
ORMG 7800	Doctoral Proseminar: Management	
OPIM 7810	Technical Topics in Information Systems Research	
OPIM 7815	Behavioral Topics in Information Systems Research	
One methods or statistics course from the following doctoral seminars:		
MKTG 7300	Multivariable Methods in Marketing Research	
MKTG 7840	Quantitative Marketing Seminar 1	
MKTG 7310	Design and Analysis of Experiments in Business	
ORMG 7830	Research Design and Methods in Management	
Doctoral Seminar: Empirical Models in Marketing		

Security Analytics Track

Code	Title	Credit Hours
Security Analytics Track Electives		
CYBR 5010	Fundamentals of Data Communication	3
MSBX 5500	Security Analytics with Python and Machine Learning	3
MSBX 5480	Information Security Management	3

Plans of Study

The sample one-year plan of study found below is restricted to students who are not working professionals. Students who are working professionals may choose from two-, three- and four-year plans of study. For more information, contact the department.

Year One

Summer Review		Credit Hours
(Summer B)		
MSBC 5070	Survey of Business Analytics	3
MSBX 5410	Fundamentals of Data Analytics	3
	Credit Hours	**6**
Fall Semester		
MSBX 5405	Structured Data Modeling and Analysis	3
MSBX 5415	Advanced Data Analytics	3
MSBC 5180	Machine Learning in Python	3
One track-specific elective [1]		3
	Credit Hours	**12**
Spring Semester		
MSBC 5190	Modern Artificial Intelligence: Introduction to AI for Business	3
MSBC 5490	BUAN Experiential Projects	3
MSBX 5420	Unstructured and Distributed Data Modeling and Analysis	3
Two track-specific electives [1]		6
	Credit Hours	**15**
	Total Credit Hours	**33**

[1] See the Requirements tab for track-specific elective options.