

BUSINESS ANALYTICS (MS IN BUSINESS ANALYTICS)

Program Description

The MSBA program is designed to provide a deep dive into analytic methodologies within the context of business applications. Specifically, our program will teach four key areas of business analytics: business acumen, applied mathematics, computing technologies, and communicating with impact. These skills will allow you to ask the right business questions, build the right models, use those models to perform the right analyses, and tell the right story by interpreting and conveying the results with impact.

The MSBA program will require full-time enrollment for 30 credits of intensive coursework in business analytics over two semesters. The curriculum is highly progressive and structured with all students completing a plan of study where business context is taught first, followed by a deep dive into analytic applications and culminating with a capstone project where real business problems will be analyzed and solved.

The MSBA program is offered through Mason's Operations and Information Systems Management (OISM) area. These OISM faculty members are uniquely trained in the techniques taught in business analytics programs at prominent institutions. Their fields include operations research, industrial engineering, business, and information technology. In addition, these faculty members have all been actively engaged in real-world applications of business analytics through their consulting activities.

For more information on our program, please visit our website at: <https://graduate.mason.wm.edu/msba/>

Academic Calendar

This schedule is tentative and subject to change. The MSBA program is a ten-month, face-to-face, residential program that is taught on-site at the Mason School of Business in Miller Hall by faculty in the Operations Information Systems and Management (OISM) area. To view specific dates for the current Academic Calendar, visit your program website (<https://graduate.mason.wm.edu/msba/academics/>) or upon request to your program team.

Fact Sheet/Tuition

Master of Science in Business Analytics

The MSBA program consists of full-time enrollment of intensive coursework in business analytics over two semesters, with each semester's course load totaling 15 credits for a total of 30 credits. Students will complete a single plan of study together as a cohort.

Students will emerge from this program with the requisite analytic skills, such as machine learning and artificial intelligence, needed to work with big data sets and to solve complex problems from multiple perspectives. This curriculum is highly structured and the courses are specific to business analytics. The foundation course, "Competing Through Business Analytics" will introduce students to the context of business, including familiarity with the functions of companies, key concepts, and the basic language of business. Next, coursework in Analytic Methodologies will provide a comprehensive coverage of important analytics tools. Examples, problems, and projects in each

course will be introduced in a business context to further develop business acumen. Areas of application include web analytics, social media analytics, customer behavior, accounting/auditing, supply chain management, human resources, and finance. Additional courses in Analytic Methodologies will provide in-depth exposure to more advanced business analytics techniques such as working with big data, heuristic algorithms, data visualization and artificial intelligence.

The program will teach students how to effectively communicate insights from data clearly and succinctly such that the relevance and importance of the message being communicated is readily apparent to managers. Critical characteristics of communicating with impact in a business setting are describing insights comprehensively yet in a succinct fashion and also describing complex analytical results using non-technical managerial terminology. Course assignments will focus on these skills. For more information, please visit our website at: <https://graduate.mason.wm.edu/msba/>

Length of Program

Two semesters (fall and spring)

Format

Our intensive ten-month curriculum will teach students the requisite analytic skills to work with big data sets such as machine learning and artificial intelligence and to solve complex problems from multiple perspectives. The curriculum provides a "book-end" approach where business context is taught first, followed by intensive analytic methodology coursework, and ending with a final business application capstone project. Interwoven in each course in the program will be assignments that will require students to analyze data and present it in at least one of the common modalities used in business including verbal communication with presentation software such as PowerPoint or by written communication such as white papers, memos, and reports.

The program will end with a business analytics capstone project in which students will apply the tools they have learned in the program to projects hosted by companies. Each project team will define and frame a complex problem from a real business entity, develop a systematic approach to solving it using analytics, generate an innovative solution and persuasively convey that solution using data visualization techniques and communication skills. Multiple projects will be offered focusing on a variety of business contexts which will allow students to find a project topic that aligns with personal interest or background. Each project will be supervised by a faculty member and will provide students with a deep understanding of the techniques which have been studied throughout the program.

Admissions Requirements

The MSBA program is designed for individuals who want to work in the field of data science and big data. This field requires extensive academic training so our best candidates will be those with strong quantitative skills, an inquisitive mind, good communication skills, and a successful undergraduate track record with heavy course work in subjects such as mathematics, statistics, computer science, business, and economics.

Prerequisites

Prior to enrollment into the MSBA program, coursework and experience in probability, statistics, linear algebra, R and Python programming is required. Also, for non-business undergraduate majors, prerequisite courses that show a foundational understanding of business, namely Finance, Financial Accounting, Marketing and Operations Management.

Please see our website for more information on specific admission and prerequisite requirements: <https://graduate.mason.wm.edu/msba/admissions/>

Tuition

Full-time Graduate Business Tuition rates are available on this site. The Full-time MSBA program offers limited financial assistance through scholarships. MSBA students may also be eligible for student loans. The cost of room, board, a laptop, books and supplies will vary depending on individual needs.

For information about financial aid, scholarships, or Graduate Assistantships, please see the section entitled "Student Financial Aid & Scholarships".

MBA-MSBA Combined Degree Program

MBA/MSBA candidates must meet the admission requirements for each program. Programs will share test score reports, recommendations and transcripts but applicants must file a separate application for In-State tuition privileges for each program.

The combined degree program requires 45 credit hours of coursework in the MBA program and 30 credit hours of coursework in the MSBA program. The MSBA and MBA degrees will both be awarded at the conclusion of both degrees. Students will participate in graduation at the end of the second year.

Ten-month Curriculum

Our intensive ten-month curriculum will teach students the requisite analytic skills, such as machine learning and artificial intelligence needed to work with big data sets and to solve complex problems from multiple perspectives. The curriculum provides a "book-end" approach where business context is taught first, followed by intensive analytic methodology coursework, and ending with a final business application capstone project. Interwoven in each course in the program will be assignments which will require students to analyze data and present it in at least one of the common modalities used in business including verbal communication with presentation software such as PowerPoint or by written communication such as white papers, memos, and reports.

Code	Title	Hours
Business Foundation Course		
BUAD 5012	Competing in the Age of AI	3
Analytics Methodology Courses		
BUAD 5022	Optimization	3
BUAD 5032	Decision Modeling	3
BUAD 5042	Computational Business Models	1.5
BUAD 5072	Foundations of ML for Business	3
BUAD 5082	Advanced ML for Business	3
BUAD 5272	Database Systems for Analytics	3
BUAD 5722	Big Data and Cloud Analytics	3
BUAD 5732	Data Visualization	1.5
BUAD 5742	Artificial Intelligence	3
Capstone Course		
BUAD 5792	BA Capstone	3
Total Hours		30