Naveen Jindal School of Management

Master of Science in Business Analytics

36 semester credit hours minimum

Faculty


Clinical Professors: Ranavir Bose, Forney Fleming III, William Hefley, Peter Lewin, Daniel Rajaratnam, Rajiv Shah, Mark Thouin

Associate Professors: Mehmet Ayvaci, Jianqing Chen, Surya N. Janakiraman, Atanu Lahiri, Amit Mehra, Young U. Ryu, Gil Sadka, Harpreet Singh, Upender Subramanian, Feng Zhao

Clinical Associate Professors: Dawn Owens, Carolyn Reichert

Assistant Professors: Radha Mookerjee, Shaojie Tang, Yingjie Zhang, Zhe (James) Zhang

Clinical Assistant Professors: Moran Blueshtein, Judd Bradbury, Sourav Chatterjee, Maria Hasenhumttl, Jeffery (Jeff) Hicks, Liping Ma, Ravi Narayan, Jason Parker, James Scott, Nassim Sohaee

Senior Lecturers: Vivek Arora, Abu Naser Islam, Prithi Narasimhan, Timothy Stephens, Luell (Lou) Thompson, gxs151030

Degree Requirements

The Master of Science in Business Analytics (MS BUAN) is a 36 semester credit hours STEM (Science, Technology, Engineering and Mathematics) degree program that provides students with a broad foundation in the business analytics and data science area. The program prepares students for professions in data science, big data, and analytics space. The core courses are designed to provide the foundation of tools and techniques to be used in the analytics domain whereas the electives allow for business application of the core techniques in Accounting, Finance, Healthcare, IT, Marketing, and Operations. The program provides two options:

(1) The Flex Program allows students the flexibility to complete the program at their own pace and tailor their degree in preparation for specific career goals by selecting electives from various fields, including Accounting, Finance, Healthcare, IT, Marketing, and Operations. The purpose of the program is to equip students with the technical tools and professional communication skills needed to practice in business analytics. Admission to the program occurs in Fall, Spring, and Summer semesters.

(2) The Cohort Program is a two-year program in which students take all courses together as a cohort. It is designed for students from various backgrounds to gain knowledge to pursue opportunities in
business analytics. The purpose of the program is to develop effective leaders in business analytics. Special tuition, fees, and admissions requirements apply and the program is supported entirely by participant tuition/fees. Admission to the program typically occurs only in the Spring semester.

To apply for this degree program, an undergraduate degree is required (all majors are considered). Students must maintain a 3.0 grade-point average (GPA) in both core courses and in all graduate courses taken in the degree program, excluding program prerequisites to qualify for the MS degree.

Prerequisites

Students pursuing the Master of Science in Business Analytics degree program are required to fulfill one semester credit hour of **MAS 6102** Professional Development course. In addition, knowledge of calculus is required and students who have not completed an undergraduate calculus course may satisfy the prerequisite by completing **OPRE 6303** Quantitative Foundations in Business. Degree credit is not earned for program prerequisites, however, the grade achieved in prerequisites will count toward the student's grade-point average (GPA). All program prerequisites must be satisfied within the first semester of graduate study as a degree-seeking student.

Course Requirements

Core Courses: 18 semester credit hours

- **BUAN 6312** Applied Econometrics and Time Series Analysis
- **BUAN 6320** Database Foundations for Analytics
- **BUAN 6324** Business Analytics With SAS
  - or **BUAN 6356** Business Analytics With R
- **BUAN 6337** Predictive Analytics Using SAS
- **BUAN 6398** Prescriptive Analytics
- **OPRE 6301** Statistics and Data Analysis
  - or **OPRE 6359** Statistics for Data Science

Elective Courses: 18 semester credit hours

Students may choose any course with a BUAN prefix, excluding BUAN core courses, or any course from one or more tracks in the following areas to obtain in-depth knowledge in a specific industry domain. Students may also substitute up to six semester credit hours master's-level courses from any unrestricted course/prefix offered within JSOM.

- **BUAN 6009** Business Analytics Internship (Required Elective)

Accounting Analytics Track

ACCT 6301 Financial Accounting  
or ACCT 6330 Intermediate Accounting I  
ACCT 6336 Information Technology Audit and Risk Management  
ACCT 6343 Accounting Information Systems  
ACCT 6344 Financial Statement Analysis  
or ACCT 6332 Intermediate Accounting II  
ACCT 6384 Analytical Reviews Using Audit Software  
or ACCT 6334 Auditing  
ACCT 6386 Government, Risk Management and Compliance

Cybersecurity Analytics Track

MIS 6316 Data Communications  
MIS 6330 Cybersecurity Management  
MIS 6333 Digital Forensics and Incident Management  
MIS 6337 Information Technology Audit and Risk Management  
MIS 6343 Advanced Cybersecurity Management  
MIS 6348 Digital Governance Risk and Compliance  
MIS 6384 Preparing for Cybersecurity Threats

Data Engineering Track

BUAN 6340 Programming for Data Science  
BUAN 6345 High Performance Analytics  
BUAN 6346 Big Data  
BUAN 6347 Advanced Big Data Analytics  
MIS 6309 Business Data Warehousing  
MIS 6363 Cloud Computing  
MIS 6383 Advanced Data Management

Data Science Track

BUAN 6335 Organizing for Business Analytics: A Systems Approach  
BUAN 6340 Programming for Data Science  
BUAN 6341 Applied Machine Learning
BUAN 6346  Big Data
BUAN 6357  Advanced Business Analytics With R

Decisions and Operations Analytics Track

OPRE 6302  Operations Management
OPRE 6304  Operations Analytics
OPRE 6332  Spreadsheet Modeling and Analytics
OPRE 6335  Risk and Decision Analysis
OPRE 6377  Demand and Revenue Management
OPRE 6378  Supply Chain Strategy

Financial Analytics Track

ACCT 6301  Financial Accounting
FIN 6301  Financial Management
FIN 6307  Mathematical Methods for Finance
FIN 6352  Financial Modeling for Corporate Analysis
  or FIN 6353  Financial Modeling for Investment Analysis
FIN 6360  Derivatives Markets
FIN 6368  Financial Information and Analysis
FIN 6382  Numerical and Statistical Methods in Finance
FIN 6392  Financial Technology and Blockchain

Healthcare Analytics Track

HMGT 6320  The American Healthcare System
HMGT 6323  Healthcare Informatics
HMGT 6325  Healthcare Operations Management
HMGT 6327  Electronic Health Records Applications
HMGT 6334  Healthcare Analytics
BUAN 6335  Organizing for Business Analytics Platforms

Marketing Analytics Track

MKT 6301  Marketing Management
MKT 6309  Marketing Research
MKT 6323 Database Marketing  
MKT 6336 Pricing Analytics  
MKT 6338 Enterprise Systems and CRM  
or MKT 6340 Marketing Projects
MKT 6342 Marketing Customer Insights Development  
MKT 6343 Social Media Marketing and Insights  
MKT 6352 Marketing Web Analytics and Insights

Social Media Analytics Track

BUAN 6335 Organizing for Business Analytics Platforms  
BUAN 6340 Programming for Data Science  
BUAN 6341 Applied Machine Learning  
MIS 6334 Advanced Business Analytics with SAS  
MIS 6344 Web Analytics  
MIS 6373 Social Media Business  
MIS 6378 Enterprise Systems and CRM  
MIS 6380 Data Visualization

1. Students may use BUAN 6009 only for their first internship and any additional internship must be completed as BUAN 6V98 (3 semester credit hours maximum). Students may also substitute BUAN 6009 with BUAN 6V98 or BUAN 6390 to fulfill internship requirement.
2. Requires prior approval of the Marketing program director

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