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 Hasenhuttl, 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
### 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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