Naveen Jindal School of Management

Master of Science in Business Analytics

36 semester credit hours minimum

Faculty


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

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

**Clinical Professors:** Ranavir Bose, Peter Lewin, Daniel Rajaratnam, Rajiv Shah, Mark Thouin

**Clinical Associate Professor:** Carolyn Reichert

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

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

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, Cybersecurity, Healthcare, IT, Marketing, Social Media, 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. Multiple elective tracks are offered in the Flex Program. 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.

Students may complete the Accounting Analytics track or the Data Science track. The Accounting Analytics track is offered in a face-to-face Cohort Program on campus, while the Data Science track may be completed in either a face-to-face Cohort Program on campus or an Online Cohort program. Special tuition, fees, and admissions requirements apply and the program is supported entirely by participant tuition/fees. Admission to the program occurs in Fall, Spring, and Summer semesters.

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. Following the completion of 18 credit hours, a student must successfully complete an internship or practicum.

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 of 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 Business Analytics
- **BUAN 6324** Business Analytics With SAS
  - or **BUAN 6356** Business Analytics With R
- **BUAN 6337** Predictive Analytics Using SAS
- **BUAN 6398** Prescriptive Analytics
- **BUAN 6359** Advanced 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 Financial Accounting I

ACCT 6336  Information Technology Audit and Risk Management

ACCT 6343  Accounting Information Systems

ACCT 6344  Financial Statement Analysis
  or ACCT 6332  Intermediate Financial Accounting II

ACCT 6384  Analytical Reviews Using Audit Software
  or ACCT 6334  Auditing

ACCT 6386  Governance, Risk Management and Compliance (GRC)

Cybersecurity Analytics Track

MIS 6316  Data Communications

MIS 6330  Cybersecurity Fundamentals

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 with SAP

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 Platforms

BUAN 6340  Programming for Data Science

BUAN 6341  Applied Machine Learning

BUAN 6342  Applied Natural Language Processing

**Decisions and Operations Analytics Track**
- **MIS 6398** Blockchain Technology and Applications
- **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 Analytics
- **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 Valuation
- **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
- **MIS 6398** Blockchain Technology and Applications

**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 Data Analysis and Research

**MKT 6336** Pricing Analytics

**MKT 6338** Customer Relationship Management with Salesforce

or **MKT 6341** Marketing Automation and Campaign Management

**MKT 6342** Marketing Customer Insights Development

**MKT 6343** Social Media Marketing and Insights

**MKT 6347** Marketing Analytics Project

**MKT 6349** MarTech Ecosystem

**MKT 6352** Marketing Web Analytics and Insights

**MKT 6353** Customer 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

**BUAN 6392** Causal Analytics and A/B Testing

**MIS 6334** Advanced Business Analytics with SAS

**MIS 6344** Web Analytics

**MIS 6373** Social Media Business

**MIS 6378** Customer Relationship Management with Salesforce

**MIS 6380** Data Visualization

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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 fulfil internship requirement.

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