Naveen Jindal School of Management

Master of Science in Business Analytics

36 semester credit hours minimum

Faculty


**Clinical Professors:** Kutsal Dogan, Forney Fleming III, William Hefley, Peter Lewin, Radha Mookerjee, Daniel Rajaratnam, Rajiv Shah

**Associate Professors:** Jianqing Chen, Xianjun Geng, Dorothée Honhon, Surya N. Janakiraman, Amit Mehra, Young U. Ryu, Gil Sadka, Harpreet Singh, Upender Subramanian, Feng Zhao

**Clinical Associate Professors:** Sonia Leach, Carolyn Reichert, Avanti P. Sethi, Kelly Slaughter, Mark Thouin

**Assistant Professors:** Mehmet Ayvaci, Atanu Lahiri, Gonca P. Soysal, Shaojie Tang, Shengqi Ye, Zhe (James) Zhang

**Clinical Assistant Professors:** Moran Blueshtein, Judd Bradbury, Maria Hasenhuttl, Jeffery (Jeff) Hicks, Liping Ma, Ravi Narayan, Dawn Owens, Nassim Sohaee, Russell Torres

**Senior Lecturers:** Monica E. Brussolo, Carol Flannery, Prithi Narasimhan, Kashif Saeed, 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 Finance, Healthcare, IT, Marketing and operations.

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 business core courses and in aggregate courses 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 **BUAN 6102** Professional Development course or equivalent. 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 12 semester credit hours of graduate study as a degree-seeking student.
Core Courses: 18 semester credit hours

- **BUAN 6312** Applied Econometrics and Time Series Analysis
- or **ECON 6306** Applied Econometrics
- **BUAN 6320** Database Foundations
- **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

Elective Courses: 18 semester credit hours

Students may choose courses from one or more tracks in the following areas to obtain in-depth analytics knowledge in a specific industry domain. Students may also seek to substitute only one three semester credit hour graduate-level course within JSOM as a free elective in the degree plan with the approval of program director and the area coordinator.

- **BUAN 6V98** Business Analytics Internship (Required Elective)\(^1\)

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 Analytics
- **BUAN 6357** Advanced Business Analytics Using R
- **BUAN 6390** Business Analytics Practicum

Decisions and Operations Analytics Track

- **OPRE 6302** Operations Management
- **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

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1. Business Analytics Internship (Required Elective)
FIN 6301  Financial Management  
FIN 6306  Quantitative Methods in Finance  
FIN 6352  Financial Modeling  
FIN 6360  Options and Futures Markets  
FIN 6368  Financial Information and Analysis  
FIN 6382  Numerical and Statistical Methods in Finance

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

IT for Analytics Track

BUAN 6335  Organizing for Business Analytics: A Systems Approach  
BUAN 6345  High Performance Analytics  
MIS 6309  Business Data Warehousing  
MIS 6334  Advanced Business Analytics with SAS  
MIS 6344  Web Analytics  
MIS 6364  Enterprise IT Architecture  
MIS 6373  Social Media and Business  
MIS 6380  Data Visualization

Marketing Analytics Track

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

1. Students may substitute BUAN 6v98 with BUAN 6390 Business Analytics Practicum course

2. Requires prior approval of the Marketing program director