Master of Science in Business Analytics

36 semester credit hours minimum

Faculty


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

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

**Clinical Associate Professors:** Carolyn Reichert, Mark Thouin

**Assistant Professors:** Mehmet Ayvaci, Atanu Lahiri, Radha Mookerjee, Shaojie Tang, Zhe (James) Zhang

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

**Senior Lecturers:** 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 **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 with a grade of "B" or better. 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

Elective Courses: 18 semester credit hours

Students may choose any course with a BUAN prefix, excluding BUAN core courses, or from one or more tracks in the following areas to obtain in-depth knowledge in a specific industry domain. Students may also seek to substitute up to six semester credit hours master-level courses offered within JSOM, including a faculty led trip as electives in the degree plan.

- **BUAN 6V98** 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

Data Science Track
BUAN 6335 Organizing for Business Analytics: A Systems Approach
BUAN 6340 Programming for Data Science
BUAN 6341 Machine Learning
BUAN 6346 Big Data
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
FIN 6301 Financial Management
FIN 6306 Quantitative Methods in Finance
FIN 6352 Financial Modeling for Corporate Analysis
FIN 6360 Derivatives 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 6345 High Performance Analytics  
MIS 6309 Business Data Warehousing  
MIS 6334 Advanced Business Analytics with SAS  
MIS 6344 Web Analytics  
MIS 6364 Enterprise Architecture: Modeling the Digital Enterprise  
MIS 6373 Social Media Business  
MIS 6380 Data Visualization

**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\(^2\)  

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

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