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, Mark Thouin

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

Clinical Associate Professor: Carolyn Reichert

Assistant Professors: Mehmet Ayvaci, 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
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