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.

Course Requirements

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)

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

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

or 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

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