

BUSINESS ANALYTICS

This program utilizes skills, technologies, and practices to explore business performance and support data-driven decision-making. It employs descriptive, prescriptive, and predictive modeling, along with other techniques, to extract valuable insights. By combining elements of data analysis, business intelligence, and management science, Business Analytics optimizes organizational strategies and addresses complex challenges.

The program focuses on applying mathematical statistics to business data analysis and prediction, including long- and short-term forecasting methods and market performance analysis. The core courses—Machine Learning for Business (DS 310), Prescriptive Analytics (DS 425), Business Forecasting with Python (DS 430), Business Applications Programming (ISM 301), and Data and Information Visualization (ISM 347)—emphasize the application of statistics, machine learning, optimization, programming, and data-driven decision-making.

Dearborn Discovery Core (General Education)

All students must satisfy the University's Dearborn Discovery Core requirements (http://catalog.umd.umich.edu/undergraduate/gen_ed_ddc/), in addition to the requirements for the major.

Major Requirements

Code	Title	Credit Hours
Required		
DS 310	Data Mining for Bus Intel	3
DS 425	Prescriptive Analytics	3
DS 430	Business Forecasting with Python	3
ISM 301	Bus Application Programming	3
ISM 347	Data and Information Visualization	3
Electives		
Select a minimum of 6 credit hours from the following:		6
BA 462	Experiential Projects	
CIS 1501	CS I for Data Scientists	
CIS 2001	CS II for Data Scientists	
FIN 407	Investment Fundamentals	
FIN 445	Corporate Finance Capstone – Advanced Financial Analysis	
FIN 447	Derivative Markets	
HRM 407	Compensation, Performance Management, and HR Analytics	
ISM 321	Database Systems I	
ISM 431	Database Systems II	
MKT 363	Digital Consumer Srch&Mktg	
MKT 454	Marketing Research	
MKT 463	Digital Analytics&Content Marketing	
OM 470	Analytics & Design of Supply Chains	
Total Credit Hours		21

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other techniques, to extract valuable insights. By combining elements of data analysis, business intelligence, and management science, Business Analytics optimizes organizational strategies and addresses complex challenges.

The minor focuses on applying mathematical statistics to business data analysis and prediction, including long- and short-term forecasting methods and market performance analysis. The core courses—Machine Learning for Business (DS 310), Prescriptive Analytics (DS 425), Business Forecasting with Python (DS 430), Business Applications Programming (ISM 301), and Data and Information Visualization (ISM 347)—emphasize the application of statistics, machine learning, optimization, programming, and data-driven decision-making.

Code	Title	Credit Hours
Business Analytics Minor ¹		
Select five courses (15 credits) from the following: ¹		15
DS 301	Introductory Business Statistics using Excel	
DS 302	Advanced Business Statistics	
DS 310	Data Mining for Bus Intel	
DS 425	Prescriptive Analytics	
DS 430	Business Forecasting with Python	
ISM 301	Bus Application Programming ²	
ISM 347	Data and Information Visualization ²	
Total Credit Hours		15

¹ Minors requiring 12 credits may share one course with a major. Minors requiring 15 credits or more may share two courses with a major.

² The ISM major can only have one of ISM 301 and ISM 347 share with the Business Analytics minor.

Goal: Students will acquire discipline-specific knowledge and develop analytical skills for addressing business problems.

- Objective 1: Students will explain and evaluate business analytics approaches and functions.
- Objective 2: Students will analyze business analytics problem-solving approaches.