



Business Analytics

Syllabus

Business Analytics introduces quantitative methods used to analyze data and make better management decisions. This course is not based on rote memorization of equations or facts, but focuses on honing your understanding of key concepts, your managerial judgment, and your ability to apply course concepts to real business problems.

Modules	Lessons	Learning Objectives	
Module 1 Describing and Summarizing Data	<ul style="list-style-type: none"> Visualizing Data Descriptive Statistics Relationships Between Two Variables 	<ul style="list-style-type: none"> Create visual representations of data that allow you to recognize trends and detect outliers Define and calculate descriptive statistics to summarize data sets concisely Analyze relationships between two variables by creating scatter plots and calculating the correlation coefficient 	Quiz
Module 2 Sampling and Estimation	<ul style="list-style-type: none"> Creating Representative and Unbiased Samples The Normal Distribution Confidence Intervals Amazon's Inventory Sampling 	<ul style="list-style-type: none"> Determine an adequate sample size, explain the importance of random sampling, and craft sound survey questions to create representative samples Draw conclusions about the larger population by calculating sample statistics and applying the properties of the normal distribution Estimate the accuracy of statistics by calculating confidence intervals 	Quiz
Module 3 Hypothesis Testing	<ul style="list-style-type: none"> Designing and Performing Hypothesis Tests Improving the Customer Experience 	<ul style="list-style-type: none"> Develop and test hypotheses to assess the impact of changes on an entire population or estimate differences between populations Quantify the evidence in favor of or against your hypothesis in order to make managerial decisions 	Quiz
Module 4 Single Variable Linear Regression	<ul style="list-style-type: none"> The Regression Line Forecasting Interpreting the Regression Output Performing Regression Analysis Forecasting Home Video Units 	<ul style="list-style-type: none"> Identify the best fit line for a data set and interpret its equation Analyze the relationship between two variables and develop forecasts for values outside the data set Perform a regression analysis using Excel and interpret the output 	Quiz
Module 5 Multiple Regression	<ul style="list-style-type: none"> The Multiple Regression Equation Adapting Concepts from Single Regression Performing Multiple Regression Analysis New Concepts in Multiple Regression The Caesars Staffing Problem 	<ul style="list-style-type: none"> Estimate the relative predictive power of different combinations of variables by performing and interpreting a multiple variable regression analysis using Excel Expand the range of your analysis by using dummy and lagged variables 	Quiz