

# BUSINESS DATA ANALYTICS (BDA)

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## **BDA 2003 Business Problem Solving**

Prerequisite: BUAD 2003 with a C or better or COMS 2003 with a C or better or Microsoft certification in both Access and Excel or permission of instructor.

This course is designed to provide students training in solving business problems. Students will work individually and in groups on projects to learn and apply various problem solving frameworks, methods, and tools to realistic business situations. Frameworks include general problem solving, systems thinking, critical thinking, and ethical reasoning. Methods and tools include project management, communication and coordination techniques, quantitative models, and software applications.

## **BDA 2023 Introduction to Data Visualization**

This course introduces students to data visualization, including principles, concepts, and techniques. The goal of the course is to empower students to identify and illuminate important insights and skillfully display them to improve decision making. This course covers basic quantitative analysis and software to create effective displays. The course will advance critical thinking skills because students will be better equipped to evaluate data and eliminate bias from the process of turning data into knowledge. Students will enhance their written and oral communication skills in written reports and presentations of their data visualizations.

## **BDA 3003 Data Analytics Apps Development**

Offered: Fall.

Prerequisite: BDA 2003 and MATH 2223 or permission of instructor.

This course covers how business data analysts develop software applications to retrieve and analyze data and provide information and business intelligence useful to solve business problems, to support business decisions, and to determine business tactics and strategy. Students will learn how to design appropriate logic and user interfaces for business data analytic software as well as write and debug professional code in a typical production environment. The student will develop a set of standard data analysis techniques representing typical approaches to solving business intelligence problems.

## **BDA 3013 Business Spreadsheet Modeling**

Offered: Fall.

Prerequisite: BDA 2003 and MATH 2223 or permission of instructor.

This is an introductory course for business major undergraduate students. The main objective of the course is to teach how to solve problems arising in modern business environments using Microsoft Excel. The course will begin by teaching common tools available in Microsoft Excel. Then it will introduce the students to a variety of analytical problems arising in modern businesses and present ways in which these problems can be solved using Microsoft Excel.

## **BDA 3033 Data Modeling and Management**

Offered: Fall.

Prerequisite: BDA 2003, BUAD 2003, and MATH 2223, or permission of the instructor This course covers how databases are constructed and managed so that business data analysts can store, update, manage, retrieve, and process data.

Students will learn to design, implement, and use databases to create information and business intelligence useful for solving problems, making business decisions, and determining business strategy and tactics. The content addresses how to design effective and efficient data models, implement data models in commonly used database management systems, retrieve and process that data, present information to clients and managers, and address the main issues and tradeoffs in database administration.

## **BDA 3053 Business Data Analysis**

Offered: Spring.

Prerequisite: BDA 2003 and (BUAD 2053 or PSY 2053 or STAT 2163 with a C or better), or permission of instructor.

This course explores the development of exploratory and predictive models for managers and business decision-makers. Specific tools addressed include analysis of variance (ANOVA), multiple regression, factor analysis, cluster analysis, logistic regression, and path analysis. Emphasis is on analyzing data using statistical software, visualizing and interpreting the results of those analyses and translating results into clear and simple insights to aid managerial decision making.

## **BDA 4003 Business Intelligence**

Offered: Spring.

Prerequisite: BDA 3003, BDA 3033, and BDA 3053 with a C or better and 90 earned hours or permission of instructor.

This course covers how data analysts can process large data sets from a variety of sources to create information by that guides leaders in crafting strategy and tactics which allow an organization to survive and thrive in a turbulent environment. Students will review how business intelligence has been created and successfully used in the past and learn appropriate processes and a variety of techniques to accomplish this transformation. The course also addresses professional and ethical conduct with respect to data mining and use of business intelligence.

## **BDA 4031 BDA Internship**

Offered: As needed Prerequisites: Permission of the instructor,

Department Chair, and Dean; a minimum GPA of 2.50 on 54 or more earned hours and on at least 15 earned hours at ATU.

A supervised, practical experience providing undergraduate BDA majors with a hands-on professional experience in a position relating to an area of career interest. The student will work in a local cooperating business establishment under the supervision of a member of management of that firm. A School of Business faculty member will observe and consult with the students and the management of the cooperating firm periodically during the period of the internship. Students will be required to make oral reports in the classroom, maintain an internship log, and prepare a final term paper. Additional hours may be used to satisfy the curriculum requirements for general electives.

Note: Only three hours of internship may be used to satisfy the curriculum requirements for Business Data Analytics electives.

**BDA 4032 BDA Internship**

Offered: As needed.

Prerequisite: Permission of the instructor, Department Chair, and Dean; a minimum GPA of 2.50 on 54 or more earned hours and on at least 15 earned hours at ATU.

A supervised, practical experience providing undergraduate BDA majors with a hands-on professional experience in a position relating to an area of career interest. The student will work in a local cooperating business establishment under the supervision of a member of management of that firm. A School of Business faculty member will observe and consult with the students and the management of the cooperating firm periodically during the period of the internship. Students will be required to make oral reports in the classroom, maintain an internship log, and prepare a final term paper. Additional hours may be used to satisfy the curriculum requirements for general electives.

Note: Only three hours of internship may be used to satisfy the curriculum requirements for Business Data Analytics electives.

**BDA 4033 BDA Internship**

Offered: As needed.

Prerequisite: Permission of the instructor, Department Chair, and Dean; a minimum GPA of 2.50 on 54 or more earned hours and on at least 15 earned hours at ATU.

A supervised, practical experience providing undergraduate BDA majors with a hands-on professional experience in a position relating to an area of career interest. The student will work in a local cooperating business establishment under the supervision of a member of management of that firm. A School of Business faculty member will observe and consult with the students and the management of the cooperating firm periodically during the period of the internship. Students will be required to make oral reports in the classroom, maintain an internship log, and prepare a final term paper. Additional hours may be used to satisfy the curriculum requirements for general electives.

Note: Only three hours of internship may be used to satisfy the curriculum requirements for Business Data Analytics electives.

**BDA 4071 Special Topics**

Offered: As needed.

Prerequisite: Permission of the Instructor, Associate Dean, and Dean; at least 54 earned hours with a minimum 2.5 overall GPA.

This course offers an in-depth exploration of selected business data analytics topics. The primary topic will vary from offering to offering; thus, the course may be taken more than once.

**BDA 4072 Special Topics**

Offered: As needed.

Prerequisite: Permission of the Instructor, Associate Dean, and Dean; at least 54 earned hours with a minimum 2.5 overall GPA.

This course offers an in-depth exploration of selected business data analytics topics. The primary topic will vary from offering to offering; thus, the course may be taken more than once.

**BDA 4073 Special Topics**

Offered: As needed.

Prerequisite: Permission of the Instructor, Associate Dean, and Dean; at least 54 earned hours with a minimum 2.5 overall GPA.

This course offers an in-depth exploration of selected business data analytics topics. The primary topic will vary from offering to offering; thus, the course may be taken more than once.

**BDA 6073 Special Topics**

Offered: As needed.

Prerequisite: MGMT 6203, BDA 6203, and BDA/MKT 6323.

This course offers an in-depth exploration of selected business data analytics topics. The primary topic will vary from offering to offering. \$35 per SSCH course fee.

Note: Course may be repeated up to three times if topic varies.

**BDA 6203 Business Information Analysis**

Prerequisite: BUAD 2053, PSY/SOC 2053, STAT 2163, or STAT 2303 with a "C" or better.

In this course, students will learn to make strategic use of information systems and technology to enhance the survival and success of an organization. They will learn how to use and manage these resources to make data-driven decisions, to create insights to assist in developing strategy, and to align the use of IS/IT with organizational goals. \$35 per SSCH course fee.

**BDA 6213 Visualizing Data**

Prerequisite: Introduction to statistics course (BUAD 2053, MATH 2163, PSY 2053, or other) and Introduction to MS Office course (BUAD 2003, MS Office Certification, or other).

Students will study ways to develop effective visualizations that are based on the principles cognitive science, graphic design, visual arts, and the visual perception theories. This course develops the ability of student to understand and convey the results of data analysis at the executive level as well as to influence others to act on insights that develop from the analysis of data. The goal of the course is to empower students to identify and illuminate important insights and skillfully display them to improve decision-making. This course covers the use of quantitative analysis and software to create effective displays. The course will advance critical thinking skills because students will be better equipped to evaluate data and eliminate bias from the process of turning data into knowledge. Students will enhance their written and oral communication skills in written reports and presentations of their data visualizations. \$35 per SSCH course fee.

**BDA 6323 Applied Predictive Analytics**

Cross-listed: MKT 6323.

Prerequisite: BUAD 2053, PSY/SOC 2053, STAT 2163, or STAT 2303 with a "C" or better.

This course will explore multivariate techniques to analyzing data (e.g. multivariate regression, discriminant analysis, logistic regression, market-basket analysis, forecasting and other analytic techniques). The focus of the course will be providing input for organizational strategic decision-making. As an applied analytics course, emphasis will be on application of predictive analytic techniques explored through conceptual, computational, procedural and computer applications. \$35 per SSCH course fee.

**BDA 6343 Advanced Analytics**

Prerequisite: BDA 6323.

This course will explore advanced analytic techniques such as machine learning and artificial intelligence as well as cluster analysis, decision trees and other advanced statistical techniques. The student will formulate advanced models and explore their use to solve complex business problems. \$35 per SSCH course fee.

**BDA 6353 Big Data Strategies**

This cutting-edge course delivers sophisticated material in an easy-to-understand, accessible way. Students will learn the foundational knowledge and tools needed to seize the opportunities that big data analytics presents as well as how to align these efforts with the organizational goals and strategies. \$35 per SSCH course fee.

**BDA 6363 Analytics Strategy**

Prerequisite: BDA 6323 and BDA 6343.

This course focuses on management of data analytics activities within an organization. Data identification, acquisition, cleansing, and analysis activities will be discussed as part of an organization's overall data, I.T. and corporate strategy. The course will explore the analytics manager's role in aligning the activities of the analytics function with the organizations data, information and corporate strategy. \$35 per SSCH course fee.