MASTER OF SCIENCE IN

BUSINESS ANALYTICS

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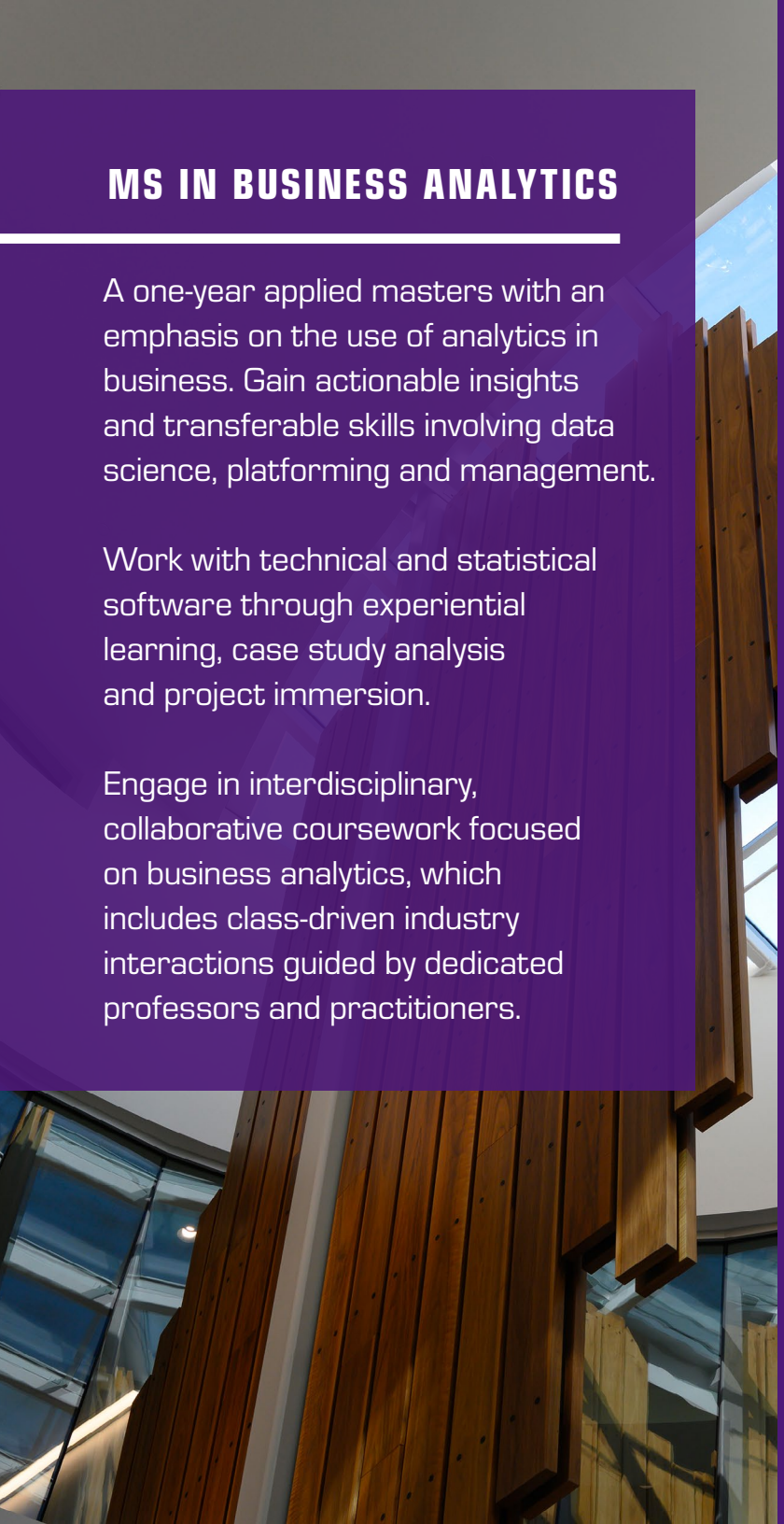
Available to all undergraduate majors and early professionals

TCU

Neeley School of Business



MS IN BUSINESS ANALYTICS

A one-year applied masters with an emphasis on the use of analytics in business. Gain actionable insights and transferable skills involving data science, platforming and management.

Work with technical and statistical software through experiential learning, case study analysis and project immersion.

Engage in interdisciplinary, collaborative coursework focused on business analytics, which includes class-driven industry interactions guided by dedicated professors and practitioners.

REQUIRED COURSES FOR THE MS IN BUSINESS ANALYTICS

Course#	Course Name	Credit Hours	Semester
Prerequisite	Foundation for Statistics (Online course + 4 hour workshop)		Summer
Prerequisite	Excel Certification		Summer
ACCT 60970	Accounting Fundamentals	1.0	Summer
MARK 60011	Marketing Fundamentals	1.0	Summer
FINA 60011	Finance Fundamentals	1.0	Summer
INSC 60011	Supply Chain Fundamentals	1.0	Summer
BUSI 60070	Simulation	1.5	Summer
INSC 60050	Business Analytics	1.5	Summer
INSC 60010	Statistical Models	1.5	Fall
INSC 60070	Data Visualization	1.5	Fall
BUSI 70970	Capstone Project	3.0	Spring
BUSI 70970	Technology Bootcamp	1.0	Summer
BUSI 70970	Ethics and Data Privacy	1.0	Summer

** All prerequisite fees will be waived for the inaugural 2020 enrollees.*

ELECTIVES FOR THE MS IN BUSINESS ANALYTICS

Course#	Course Name	Credit Hours	Semester
ACCT 70970	Accounting Analytics	1.5	Fall
ACCT 70970	Business Processes and Risk	1.5	Fall
BUSI 70200	Business Intelligence and Analytics	1.5	Fall
FINA 70523	Financial Modeling	3.0	Fall
INSC 71100	ERP Simulation	1.5	Fall
MARK 70770	Marketing Research	1.5	Fall
INSC 71110	Predictive Analytics with SAP	1.5	Winter Int
INSC 71130	Data Analytics Simulation	1.5	Winter Int
MARK 70110	Marketing Analytics	1.5	Spring
MARK 70210	Analytics for Innovation	1.5	Spring
MARK 70200	Customer Relationship Marketing	1.5	Spring
MARK 70390	Digital Marketing Analytics	1.5	Spring
MANA 70970	People Analytics	1.5	Spring

COURSE DESCRIPTIONS

ACCT 60970 Accounting Fundamentals

1.5 Credit Hours

A study of the fundamental concepts of financial accounting and reporting by business entities in accordance with generally accepted accounting principles. The course approaches the material from the perspective of the financial statement user rather than the financial statement preparer. Therefore, emphasis is placed on the use and interpretation of information contained in business financial statements by managers, investors and creditors.

ACCT 70970 Accounting Analytics

1.5 Credit Hours

This course allows students to explore how accounting information contributes to business analytics and how analytical methods can be used to investigate past financial performance, forecast future financial performance, and deliver insights for decision making. Students will gain an understanding of how financial data and non-financial data interact by applying analytical techniques to realistic data in a series of cases to arrive at business decisions.

BUSI 60070 Business Simulation

1.5 Credit Hours

This course helps students integrate concepts from the different business disciplines by involving them in a complex computer simulation of realistic business situations. Teams of students are required to make business decisions involving a diverse set of business functions and activities over a series of rounds in which conditions change. Through successive phases of the simulation, students must respond to the actions of competing company teams represented by their classmates and are exposed to the consequences of their previous decisions. The course, which is taught at the end of the required core courses, requires students to draw on the material from those courses in making their decisions. Student performance in the simulation is reflected in a balance scorecard of multiple metrics. At the end of the simulation, students present their rationales for their decisions.

ACCT 70970 Business Processes and Risk

1.5 Credit Hours

This course addresses the emerging roles of accounting analytics in business and auditing settings. Students will learn a variety of data analytical skills to identify and assess business and audit risks within key transaction processing cycles fundamental to companies across industries. Students will also learn to understand data within the context of accounting information systems to generate effective responses to mitigate risks exposures.

BUSI 70200 Business Intelligence and Analytics

1.5 Credit Hours

This course will cover the analysis of data as it pertains to accounting professionals. The focuses include analytic techniques for decision making and the examination of big data involving accounting information. Ideally, the course will utilize SAP, Power BI/ Tableau/Lumira, IDEA and SQL to allow students to continue building upon the skillsets developed in the Analytics core classes. Integrating common tools and applications across disciplines will provide the student a richer experience and broader perspective. Potential topics include sources of accounting data; financial reporting and analysis: slicing and dicing, queries and reports; data visualization: charts, dashboards and advanced visualization techniques; audit analytics; data mining and fraud; descriptive models for accounting decision making.

BUSI 70970 Capstone Project

3.0 Credit Hours

This course gives students the opportunity to integrate, apply and expand the concepts and tools learned throughout the MS in Business Analytics curriculum. The project is operated as an independent study with focus on a specific problem or research opportunity that can be addressed with analytics. Students must complete this course to earn their MS in Business Analytics.

COURSE DESCRIPTIONS

FINA 60011 Finance Fundamentals

1.0 Credit Hours

The course is designed to help bridge the gap between an undergraduate experience in finance and a graduate level course. As such, there is less emphasis on memorization of terminology and greater emphasis on critical thinking, analytics and decision-making. This course will review some of the basic concepts, but a major emphasis will be placed on identifying and describing practical applications of key concepts by means of case studies and projects, with emphasis on the ambiguities and nuances occurring in applying theory to empirical projects.

This is also supplemented by developing students' critical thinking skills through in-depth analysis of financial decisions from a managerial perspective. This course will help students better understand the key issues that managers face when they make investment decisions, including technical issues such as knowledge of cash flows, time-value of money and valuation principles, valuation principles, but also big picture issues examining what the sources of value creation are, how to deal with managerial biases and estimation uncertainty, and how investment decisions must fit with the strategic vision of the firm.

FINA 70523 Financial Modeling

3.0 Credit Hours

The emphasis of the course is on developing skills for financial modeling. After completion of this course, students will acquire the tools needed to build financial models and design the analysis to create insights from the models.

INSC 60011 Supply Chain Fundamentals

1.0 Credit Hours

The course is designed to bridge the gap between an undergraduate knowledge of operations and/or supply chain management and a graduate level course. As such, there is less emphasis on memorization of terminology and greater emphasis on critical thinking, analytics and decision-making. The course demonstrates how various processes and partnerships within a company's supply chain can be integrated to deliver value to customers. Students who do well in this course will learn to speak the language of supply chain management and will understand fundamental supply chain strategies and tactics that can be used to gain competitive advantage.

INSC 60050 Business Analytics

1.5 Credit Hours

This course is an introduction to the fundamentals of business analytics. Business analytics are enabled by business intelligence (BI) tools for the purpose of analytic decision making. BI systems combine gathering data, storing it and analyzing it to present complicated company and competitive information to planners and decision makers.By providing wider visibility to plans and supporting data, analytical tools increase the return on existing organizational planning applications because they help companies understand where and how they deviate from their plan objectives. In addition, they provide shared data availability that encourages a global perspective on business performance. Real-world case studies will show students the ways organizations are using analytics to support both tactical and strategic decision making.

INSC 60010 Statistical Models

1.5 Credit Hours

This course teaches quantitative methods used in data analysis and business decision making with an orientation towards regression analysis. This course presents the basic topics in regression including statistical inference from regression output, limitations of regression models and the pitfalls involved in their use. Analysis of both cross-sectional data and time-series data will be discussed. Additional topics include aspects of statistical process control, ANOVA, chi-square tests and logistic regression. The course is taught from an applied perspective using computer software (Excel and Minitab) to perform statistical analyses.

INSC 60070 Data Visualization

1.5 Credit Hours

Designed for students who have an interest in developing data visualization skills. Big Data is everywhere but a big data set can be difficult to understand and interpret. Presenting data to your audience in the right aesthetic form and functionality is critical to convey the information effectively. This hands-on course will focus on how to use various data analysis tools and techniques to communicate complex information with visually appealing charts, graphs and maps. The course will focus on: 1) employing best practices for using databases to create visualizations and maps that tell stories with data, 2) learning how to prepare data visualizations, 3) creating interactive data illustrations including dashboards, and 4) building business analytic skills using Tableau.

COURSE DESCRIPTIONS

INSC 71100 ERP Simulation

1.5 Credit Hours

The ERP Simulation is an innovative learning-by-doing and problem-based approach to teaching MBA students ERP concepts. During the game, students will work on teams to run a business with a real SAP ERP system. The simulation places the students at the heart of a make-to stock manufacturing company where they must operate the full business cycle (plan, procure, produce and sell), and in so doing experience the value of upstream and downstream information visibility.

INSC 71110 Predictive Analytics with SAP

1.5 Credit Hours

Predictive analytics is the practice of extracting information from existing data sets with data visualization software in order to determine patterns and predict future outcomes and trends. This course will employ a learning-by-doing approach to teach students how to utilize the latest SAP analytics applications to analyze real-world Big Data sets to anticipate future behavior. In particular, students will practice the three major areas that comprise predictive analytics (i.e., reporting, visualization and prediction) through guided exercises and case studies.

INSC 71130 Data Analytics Simulation

1.5 Credit Hours

This course utilizes data analytics simulations to explore concepts of process design and strategic decision making. This course takes an analytical approach to allow MBA students to increase their intuition and understanding of core operational and performance concepts. The focus of this course is to: a) expose students to the core concepts in data and process analysis in a dynamic and experiential manner; b) increase student intuition regarding the interplay between the various elements of data analytics via toolkit-style exercises; c) give students the tools by which to understand data analysis via experimentation and proactive creation. These principles are examined via hands-on exercises, case studies and class discussion.

MANA 70970 People Analytics

1.5 Credit Hours

The concept of people analytics (also referred to as HR analytics, workforce analytics, and similar) refers to a data-driven approach for managing employees that overcomes limitations associated with more subjective methodologies (e.g., making decisions based on personal relationships, prior experiences and/or cognitive biases). This course will introduce philosophical issues (e.g., inductive and deductive logic, ethics, etc.) associated with using data to manage employees; discuss popular and up-and-coming problems that may benefit from analytic approaches; build knowledge of the fundamental issues associated with identifying and measuring critical variables; and provide hands-on experience collecting, analyzing and interpreting people-related data.

Students should exit the course with a solid conceptual foundation of people analytics as well as demonstrable skills that can be used to improve outcomes for employees and organizations. Students will engage in meaningful discussions and encourage deep critical thinking that emphasize the complexity, outright messiness and opportunity associated with using analytics to guide workforce management. The class will also include a practitioner- and scholarly-oriented articles, case studies, guest speakers and experiential assignments to achieve learning objectives.

COURSE DESCRIPTIONS

MARK 70770 Marketing Research

1.5 Credit Hours

Marketing research is about providing relevant, accurate and timely information for marketing decisions. This includes information about competition, external environment and current as well as potential customers. Whether or not you work in a marketing research function, at some point in your business career you most likely will need to deal with marketing research, either as a producer or as a user. This course is designed to provide an overview of marketing research and its use in making more effective marketing decisions. The primary emphases are designing research studies that are both valid and pertinent, and accurately interpreting analysis to guide managerial decisions.

MARK 70110 Marketing Analytics

1.5 Credit Hours

Tools for positioning products (perceptual maps, joint space maps, factor analysis), segmenting markets (cluster analysis), classifying customers into segments based on observables (discriminant analysis), along with higher-level methods useful for a variety of marketing tasks, including higher-level regression and response models for resource allocation decisions, etc. Focus on methods and intuition behind methods. Use of small cases and projects to illustrate use of methods. More in-depth analytics.

MARK 70210 Analytics for Innovation

1.5 Credit Hours

Applications surrounding innovation (conjoint analysis, diffusion, outcome-driven innovation research) and other key marketing issues (pricing and customer lifetime value). Focus on practical applications including combining tools with segmentation techniques. Use of small cases and projects to illustrate use of methods.

MARK 70200 Customer Relationship Marketing

1.5 Credit Hours

This course focuses on the measurement and management of customer selection, customer acquisition and customer value. Key concepts explored:
(1) identifying and selecting customers, (2) understanding management of customer acquisition, (3) estimating the value of a customer, (4) linking customer value to shareholder value, and (5) understanding which marketing actions are most appropriate for growing the value of a customer segment.

MARK 70390 Digital Marketing Analytics

1.5 Credit Hours

Digital marketing has become an essential component of any firm's marketing strategy, and even though more dollars are being shifted to digital, marketers and executives are still trying to grasp this medium that is continually evolving. In this course, with a focus on digital marketing analytical tools, students will develop an understanding of digital marketing, study the most important digital channels, gain an understanding of the most challenging topics in digital marketing today including programmatic, attribution, measurement and privacy, as well as develop delete hands-on experience managing digital marketing campaigns.

FEATURED FACULTY

Minakshi Trivedi, PhD

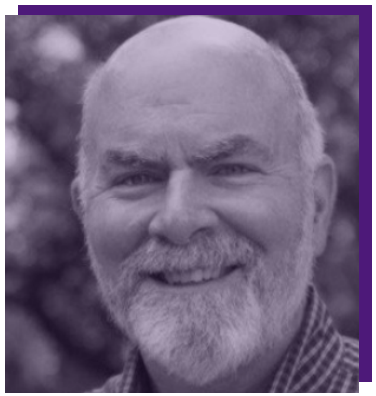
Chair of the Neeley Analytics Initiative, J. Vaughn and Evelyn H. Wilson Professor of Business, Chair of the Department of Marketing

David Preston, PhD

Faculty Advisor for MS in Business Analytics, Professor of Information Systems

Mark Houston, PhD

Eunice and James L West Chair in Marketing



Robert Leone, PhD

J.Vaughn and Evelyn H. Wilson Chair in Marketing

Brad Harris, PhD

Associate Professor of Management and Leadership

Kelly Slaughter, PhD

Associate Professor of Professional Practice in Information Systems, Director of the BIS Program

David Weltman, PhD

Associate Professor of Professional Practice in Supply Chain

Mark Wills

Accounting Instructor

TCU

Neeley School of Business

Apply at TCUanalytics.tcu.edu

Total Tuition & Fees:

$56,040

Inaugural year enrollees in 2020 will be provided prerequisite Excel training and Statistics workshop at no cost and $2900 in scholarships.

Questions? Contact:

AnalyticsAdmissions@tcu.edu

neeley.tcu.edu