

SPORT ANALYTICS

BEGINNING FALL 2022

The Bachelor of Science in Sports Analytics is designed to provide students with quantitative skills and knowledge alongside the sport industry experience in preparation for careers as a sport analyst.

The degree provide students with a unique skill set that can be utilized in all aspects of the sport industry including team operations and customer engagement for data driven decision makers in sport organizations.

GENERAL EDUCATION [46 CREDITS]:

Including:

3450:221 Analytical Geometry – Calculus

3250:200 Principles of Microeconomics

ADDITIONAL BUSINESS REQUIREMENTS[3 CREDITS]:

3250:201 Principles of Macroeconomics

SPORTS ANALYTICS CORE [59 CREDITS]:

3250:325 Applied Econometrics I (Spring)

Students learn SAS coding and the foundations of data science. Course covers multiple regression estimation and inference analysis and concludes with a research paper.

Prerequisites: 3470:261 & 262 or 6500:304

3250:326 Applied Econometrics II (Fall)

Violations of the classical assumptions of the regression model and corrections are explored along with regression analysis of timeseries data. Culminates with a research paper.

Prerequisites: 3250:325

3250:423 Applied Game Theory

Application of the basic concepts of game theory (analysis of strategic behavior) to relevant economics issues including bargaining, cartels, voting, conflict resolution and non-competitive pricing.

Prerequisites: 3250:200

3460:200 Programing forData Science

Introductory programming for dataintensive applications including data collection, pre-processing/cleansing, analysis, and visualization, using libraries for processing of large data sets. Designed as a first programming course for non-majors in the sciences.

Prerequisites: 3450:145 or 3450:149

3470:462 Applied Regression and ANOVA (Fall)

Applications of the techniques of regression and multifactor analysis of variance.

Prerequisites: 3470:262 or 3470:461

3470:480 Statistical Data Management (Fall)

Students learn data organization and structures, design of statistical data bases, statistical software analysis, importing and exporting data between software, and missing data analysis.

Prerequisites: 3470:262 or 3470:461

3470:483 Advanced Statistical Computing

Topics include data management, random number generation, resampling methods, numerical optimization, Markov Chain Monte Carlo, smoothing methods, data mining: clustering and classification.

Prerequisites: 3470:262 or 3470:461 or equivalent

3470:484 Introduction to Machine Learning

Methodologies for statistical learning, including generalized logistic regression, ridge regression, neural networks, support vector machines, principal components analysis, and K-means and hierarchical clustering

Prerequisites: 3470:262 or 3470:461 or equivalent

3470:485 Applied Analytics-Decision Trees

Selected topics in predictive modeling using CHAID, Classification and Regression Trees, Logistic Regression and Neural Networks.

Prerequisites: 3470:262 or 3470:461

6200:201 Accounting Principles I

Introduction to accounting principlesincluding accounting for revenues, expenses,assets, liabilities, equity, accounting standards and financial statements. **Prerequisites: 24 credits**

6200:250 Spreadsheet Modeling & Decision Analysis

In-depth study of spreadsheet applications and databases to support decision-making and problem-solving in business and accounting.

Prerequisites: 24 credits

6400:301 Principles of Finance

An overview of the financial system and the major decision areas of the financial manager such as capital budgeting, financing, and working capital management.

Prerequisites: [3250:200 or 3250:244], [3450:145 with a grade of C- or better or higher math], 6200:201, and completion of 6200:250.

6500:301 Management Principles & Concepts

An interdisciplinary approach to the study of the basic principles of general management theory and practice.

Prerequisites: 32 credits

6500:304 Business Statistics

Introduces statistical methods to support quantitative decision analysis for solving business problems. Includes probability, sampling, estimation, hypothesis testing, analysis of variance. Utilizes case studies.

Prerequisites: [3450:145 with a grade of of C or better or higher math] and 6200:250

6500:324 Database Management in Information Systems (Fall)

An introduction to database design and management, including data modeling, relational theory, Structured Query Language, and database applications, development, using database management systems.

Prerequisites: 6200:250 and 48 completed hours

6500:370 Financial Issues in Sport

This course will address ownership structures, venue financing, franchise valuation, risk, taxes, sport investment, labor and media contracts and budgeting. Students will also explore the body of knowledge associated with pursuing a career in sport business.

Prerequisites: Admitted to Major in a four-year degree granting college, 6200:201, 6200:250, and 6400:301

6500:404 Applied Topics in the Sports Industry

This course will focus on the evolution of sport in the 21st century. Topics may include the professionalization of college athletics, technological advances in sport, athlete branding, the use of advanced metrics in performance projections, customer/ fan engagement, the role of social media in sport consumption, diversity, and sport and society.

Prerequisites: Junior or greater standing and must be admitted to a major in a four-year degree granting college

6500:470 Sports Business Consulting Project (Spring)

Students develop skills in navigating and managing team dynamics while addressing complex issues specific to a unique sport organization.

Prerequisite: Must be admitted to a major in a four-year degree granting college,

6600:205 Marketing Principles

A general survey of marketing activities including analysis of markets, competition, consumer behavior, information systems, and the assessment of product, price, distribution, and promotion strategies.

Prerequisite: 24 hours of college credit. Pre/ Corequisite: 3250:200 or 3250:244.

For more information, please contact the College of Business Advising staff at businessadvising@uakron.edu or 330.972.7042

SPORTS ANALYTICS ELECTIVES (17 CREDITS):

Marketing Track Complete 10 credits from below:

- 6600:335** Marketing Research
- 6600:336** Marketing Research Lab
- 6600:355** Consumer Behavior
- 6600:375** Marketing & Sales Analytics
- 6600:440** Brand Management

Economics Track Complete 9 credits from below:

- 3250:310** Managerial Economics
- 3250:333** Labor Economics
- 3250:405** Women and the Economy
- 3250:405** Economics of the Public Sector
- 3250:427** Economic Forecasting
- 3250:428** Economics of Sports

Other Options:

- 3450:222** Analytic Geometry-Calculus II
- 3450:223** Analytic Geometry-Calculus III
- 3450:312** Linear Algebra
- 3460:209** Computer Science
- 3470:262** Introductory Statistics II
- 3470:495** Statistical Consulting I
- 5550:100** Intro to Sports Studies
- 5550:424** Sports Leadership
- 6200:202** Accounting Principles II
- 6400:220** Legal & Social Environments of Business
- 6500:310** Business Information Systems
- 6500:325** Systems, Analysis, and Design
- 6500:420** Data Networks and Security
- 6500:422** Applied Sales in Sports
- 6500:425** Decision Support with Data Warehousing & Data Mining
- 6500:427** Systems Integration



The University of Akron
College of Business