



KENTUCKY STATE
UNIVERSITY

MASTER OF SCIENCE IN SPORTS ANALYTICS (PENDING CPE/SACSCOC APPROVAL DECEMBER 2025)

The Master's in Sports Analytics is a comprehensive program designed to equip students with advanced analytical skills and a deep understanding of the sports industry. This program integrates core courses in performance analysis, business management, and communication to provide a well-rounded education that prepares graduates for diverse roles in the sports sector.

Key features of the program include:

Performance Analysis: Courses focus on evaluating athlete performance, using data-driven techniques to optimize training, and enhancing team strategies. Students learn to apply statistical methods and cutting-edge technology to improve athletic outcomes.

Business Management: The curriculum covers essential business principles, including sports marketing, finance, and operations. Students gain insights into managing sports organizations, developing marketing strategies, and driving business growth within the sports industry.

Communication: Effective communication skills are emphasized, with courses designed to enhance students' ability to present data insights clearly and persuasively to diverse audiences, including coaches, athletes, and executives.

Thesis/Capstone Requirement: The program culminates in a thesis project, allowing students to conduct original research and apply their analytical skills to real-world sports-related issues. This capstone experience demonstrates their expertise and readiness to contribute to the field.

Additionally, the Master's in Sports Analytics program offers transferable skills that are valuable across various industries. These include advanced data analysis, critical thinking, problem-solving, and the ability to leverage technology for strategic decision-making.

Graduates of this program are well-prepared for careers in sports analytics, sports management, and related fields, with the versatility to apply their skills in other data-driven roles across different sectors.

Core Courses

EXC 501: Introduction to Sports Analytics: The purpose of this course is introduced to students to the field of Sports Analytics and the growth opportunities for obtaining the skill. The course will introduce students to not only how to use Sports Analytics but will also expose students how to use skills obtained across other industries.

EXC 503: Introduction to Data Sciences: For this course, students will learn how to collect, clean, and analyze data, as well as how to interpret and communicate their findings. By the end of the course, students will have the skills necessary to perform basic data analysis, create predictive models, and present data-driven insights. This course is ideal for those looking to build a strong foundation in data science and prepare for more advanced study or careers in the field.

EXC 505: Research Writing and Capstone Preparation: An extensive 8-week course that prepares students in the program to conduct either quantitative, qualitative, and/or mixed methods research for both the program and within their industry of interest. Additionally, this course will prepare the student for the required capstone course.

EXC 507: Industry Relevant Application: Designed for graduate students, the course provides in-depth knowledge on how data analytics is leveraged in different sectors such as professional sports, media, health and fitness, eSports, and more. Through a combination of lectures, case studies, and practical projects, students will explore how analytics drives performance, marketing, fan engagement, and strategic decisions in these industries.

EXC 509: Ethical and Legal Practice and Application: This course covers the critical aspects of betting, gambling, and the associated legal and ethical considerations. The course provides a comprehensive understanding of how data analytics is applied in the sports betting industry, examines the legal frameworks governing sports gambling, and addresses the ethical implications of analytics in sports. Within this course students will gain the skills and knowledge necessary to navigate the complexities of sports analytics in a responsible and informed manner.

EXC 511: Performance and Tactical Application: This course focuses on enhancing sports performance and tactical decision-making through data-driven analysis. Additionally, the course covers advanced analytical techniques to evaluate athlete performance, optimize team strategies, and improve competitive outcomes. The student will be exposed to lectures, practical exercises, and case studies, and learn how to apply sports analytics to real-world scenarios, gaining insights that drive tactical decisions and boost athletic performance.

EXC 513: Wealth Promotion and Data Analytics: This 8-week Master's course in Sports Analytics explores the intersection of economics, marketing, and wealth promotion in the sports industry. Additionally, the course provides insights into how data analytics can be leveraged to drive economic growth, enhance marketing strategies, and promote wealth in sports organizations. Through a combination of lectures, case studies, and hands-on projects, students will develop the skills necessary to analyze economic trends, optimize marketing campaigns, and maximize revenue generation in the sports sector.

EXC 515: Use of Data in Public Relations and Communication: This 8-week Master's course in Sports Analytics examines the critical role of data analytics in public relations, broadcast journalism, and communication within the sports industry. Designed for graduate students, the course provides comprehensive insights into how analytics can enhance media strategies, improve public relations efforts, and optimize communication with stakeholders. Through lectures, case studies, and practical projects, students will learn to use data to craft compelling narratives, manage public image, and effectively communicate sports-related content to diverse audiences.

EXC 517: Sports Administration Using Data: Designed for graduate students, the course provides comprehensive insights into how analytics can enhance decision-making processes, optimize operations, and

improve the overall management of sports organizations. Through a blend of lectures, case studies, and practical projects, students will learn to leverage data to drive strategic initiatives, enhance organizational performance, and achieve administrative excellence in the sports industry

EXC 519 *Capstone*: This 8-week Master's level Capstone course in Sports Analytics integrates key aspects of communication, broadcast, ethical and legal practices, industry-relevant sports analytics, performance, wealth promotion, public relations, and research. The course is designed to help students apply their knowledge to real-world scenarios, produce scholarly work, and prepare for a career in sports analytics or data analytics. Students will work on comprehensive projects that demonstrate their analytical skills, ethical considerations, and ability to communicate findings effectively.