MASTER OF SCIENCE IN SPORT ANALYTICS

100% ONLINE

The Master of Science in Sport Analytics (MSSA) program is a one year, fully online degree program with two emphasis areas – sport performance and sport business. The online MSSA program is designed to enhance knowledge, skills, and competencies in data acquisition, management, analysis, visualization and interpretation for improving sport performance and sport business. Coursework will prepare professionals with strong practical skills in analytics, focusing on measurement and statistical modeling and big data analytics in sport. The program combines academic, practical, and research-based skills to allow students to develop in their selected area.

KEY BENEFITS
SPORT ANALYTICS

- One (1) year 100% online program, accelerated classes
- 5 admission terms throughout the academic year
- Two emphasis areas: 1) Sports Business and 2) Sports Performance
- Prepares students to pursue analytical positions in sports
- The market overview for sport analytics indicates high employment growth rate of 15.6%

PROGRAM OBJECTIVES

Students receiving the MS in Sport Analytics will be trained for analytical positions in sport business or performance found in collegiate and professional sports and sport-related enterprises. Graduates will be equipped to work in a variety of settings depending on their emphasis area (sport business or performance) including collegiate and professional sports teams, sports marketing agencies, media companies, sports betting companies, sport science and strength and conditioning/human performance.

GRADUATES WILL BE ABLE TO:

- Demonstrate analytical skills appropriate for sport business or performance including measurement and data acquisition, database management, statistical modeling, predictive analytics, big data analyses.
- Utilize appropriate research methodology and analytic techniques to inform decision making in sport business or performance outcomes.
- Describe, discuss and apply knowledge, skills and competencies with the highest ethical standards.
- Interpret data and research findings to improve sport business or performance outcomes.

COURSES

The program consists of 30 credit hours and is comprised of 21 credit hours of core coursework and 9 credit hours of emphasis area coursework. All courses are 8-week, accelerated courses. The 30 credit hour curriculum is designed to be completed in 12 months. Part-time progression is an option; however, all learners will be encouraged to complete the degree within 2 years of enrollment.

SPORT ANALYTICS CORE COURSES (21-credit hours)

SA 511 Applied Statistics: An introduction to statistics, the science of organizing, analyzing, and interpreting numerical data. The focus of this course is to provide students with an understanding of descriptive statistics and inferential statistics using common statistical software packages and to analyze, interpret and present results.

SA 601 Measurement and Evaluation in Sport: A presentation of methods for data acquisition and for making reliable and valid judgments about matters of scientific concern in sport. Systematic approaches to evidence-based decision making will be described, applied and discussed.

SA 602 Predictive Analytics in Sport: An introduction to and application of statistical techniques aimed at making evidence-based decisions, classifications, and predictions using mathematical modeling, statistical analysis, predictive analytics, game theory, optimization and simulation.

SA 603 Big Data Analytics and Data Management: Students will learn R programming to apply analytic techniques, such as data mining, visualization of data and basic machine learning.

SA 604 Quantitative and Qualitative Research Methods: The introduction and application of scientific processes within the contexts of sports science and sport business. Fundamental principles of qualitative and quantitative experimental design - including the importance of following accepted processes in statistical analyses, sampling and the making of inferences - are highlighted. Principles for the ethical conduct of research will be described, discussed and applied across course topics.

SA 605 Communication and Data Visualization in Sport: This course will provide an overview of techniques for effectively translating and communicating quantitative and qualitative data into readable graphics to varied audiences, including sport agencies, and the public. Visualization and communication tools such as promotion materials (e.g., infographics), statistical graphs and plots, and oral presentations will be covered to give students skills in sport data and messaging.

SA 693 Degree Culmination: Sport Analytics Capstone: A summative class aimed at designing, developing, completing and defending a research-based data analysis document or a literature review and a section that encompasses the student's own critical judgment about the issue in question. The final format and the requirements of the project are completed in direct consultation with the student's faculty advisor or a member of the teaching faculty.

SPORT BUSINESS EMPHASIS (9-credit hours)

SA 611 Sport Business: This course is designed to provide future sport business professionals with theoretical and practical knowledge in marketing principles, management, communication process, and current business issues in the contemporary sport industry. Overall, this course is intended to prepare students who can assume responsible positions with skills of application and demonstration for the complex nature of today's sport business marketplace.

SA 612 Sport Economic Analytics: This course is designed to develop student competencies in the understanding of theories in sports economics. As part of the course, students will analyze and problem-solve various cases relating to financial management in sport; conduct financial analyses and forecasts for sports organizations; demonstrate appropriate skills with spreadsheets for budgeting and managing financial resources, and; explore fund-raising strategies used to generate revenues for sport enterprises.

SA 613 Machine Learning in Sport: The elements of sport are interwoven with vast amount of data that requires advanced analytic techniques to untangle the mystery behind machinery and intelligence in the field of sport. This course will provide an overview of how machine learning can be used to improve and predict sport outcomes.

SPORT PERFORMANCE EMPHASIS (9-credit hours)

SA 621 Data Analytics in Strength and Conditioning: This course will focus on theories and practices of strength and conditioning. Advanced strength and conditioning techniques and programming will be reviewed and assessed. Students will be equipped to systematically design training and conditioning programs for sport-specific performance.

SA 622 Physiological Aspects of Sport Performance and Monitoring: The course will expand knowledge of physiological requirements of sport, the importance of physiological systems in athlete performance; and the principles underlying physiological exercise testing from both a theoretical and practical perspective, with an emphasis on sports specificity and field-based and laboratory-based testing. Students will utilize data sets to develop sport-specific plans for enhancing physiological adaptation through training and conditioning.

SA 623 Data Based Prevention and Management of Sport Injury: This course explores appropriate qualitative and quantitative methods for assessing, preventing, and managing common sports injuries. Students will examine and critically analyze variables central to keeping athletes healthy. Students will utilize reference values to examine key indicators for predicting injury risk, examine data and data sets to reduce injury risk and monitor the recovery process after an injury has occurred.

*All students must take the SA 511 Applied Statistics course at the beginning of their program. **All students must complete the SA 693: Sport Analytics Capstone Course at the end of their program. Students must complete this course with a grade of B- or above.

CONTACT

For more information about admissions requirements, visit https://hesrm.olemiss.edu/mssa/. To learn more, contact our Director of Graduate Student Success, Andy King, at Andy@olemiss.edu.

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