

**George Mason University**  
**College of Education and Human Development**  
School of Sport, Recreation and Tourism Management

SPMT 425 – Sport Analytics  
3 Credits, Spring 2021  
Online

## Faculty

Name: Gregory Purcell  
Email: [gpurcell@gmu.edu](mailto:gpurcell@gmu.edu)  
Phone: 540-280-5825

Office: Krug Hall 213  
Hours: By Appointment

## Prerequisites/Corequisites

STAT 250

## University Catalog Course Description

This course will discuss the theories, concepts and development of analytics in sports today. Students will discuss and analyze the methods of sport analytic topics in today's industry, such as player performance, player management, sports data strategies, team management, game day operations and strategies, etc. Additionally, students will gather insight of how these aspects and more affect today's sport analytics.

## Course Overview and Learning Objectives

This course prepares students to gain an appreciation and knowledge of sport management while analyzing the strategies and concepts that are apparent within today's industry. At the conclusion of this course, students will be able to:

1. Use Excel, R and R Studio to work with sport data
2. Analyze the concepts and characteristics of analytics in sports today.
3. Successfully interpret the aspects within analytics in sport today, i.e. impact of analytics in sport, player data, player data points, performance data tracking, etc.
4. Comprehend and engage in critical thinking with the analytic topics in sports today, while analyzing the importance of these aspects toward players, coaches, teams, etc.
5. Obtain a unique perspective of the growing trend and field of sport analytics, while recognizing the reasons for doing so within sports today.
6. Absorb and gather insight on the strategies and concepts being used today to evaluate player/team performance related to sports analytics.
7. Comprehend and effectively analyze the different trends of sports analytics today, while assessing the outcomes and concepts of the impact within the sports analytics field.

## Course Delivery Method

This course will be delivered online using an asynchronous format via the Blackboard learning management system (LMS) housed in the MyMason portal. You will log in to the Blackboard course site using your Mason email name (everything before "@masonlive.gmu.edu") and email password. The course site will be available online January 24, 2021 at midnight.

### *Technical Requirements*

To participate in this course, students will need to satisfy the following technical requirements:

- High-speed Internet access with a standard up-to-date browser, either Internet Explorer or Mozilla Firefox is required (note: Opera and Safari are not compatible with Blackboard).
- Students must maintain consistent and reliable access to their GMU email and Blackboard, as these are the official methods of communication for this course.
- Students may be asked to create logins and passwords on supplemental websites and/or to download trial software to their computer or tablet as part of course requirements.

### *Expectations*

- Course Week:  
Because asynchronous courses do not have a "fixed" meeting day, our week will start on Monday morning at 5:00 am, and finish on Sunday night at 11:59 pm
- Log-in Frequency:  
Students must actively check the course Blackboard site and their GMU email for communications from the instructor, class discussions, and/or access to course materials at least five times per week.
- Participation: Students are expected to actively engage in all course activities throughout the semester, which includes viewing all course materials, completing course activities and assignments, and participating in course discussions and group interactions.
- Technical Competence: Students are expected to demonstrate competence in the use of all course technology. Students who are struggling with technical components of the course are expected to seek assistance from the instructor and/or College or University technical services.
- Technical Issues: Students should anticipate some technical difficulties during the semester and should, therefore, budget their time accordingly. Late work will not be accepted based on individual technical issues.
- Workload: Please be aware that this course is **not** self-paced. Students are expected to meet *specific deadlines* and *due dates*. It is the student's responsibility to keep track of the weekly course schedule of topics, readings, activities and assignments due.
- Instructor Support: Students may schedule a one-on-one meeting to discuss course requirements, content or other course-related issues. Those unable to come to a Mason campus can meet with the instructor via telephone or web conference. Students should email the instructor to schedule a one-on-one session, including their preferred meeting method and suggested dates/times.
- Netiquette: The course environment is a collaborative space. Experience shows that even an innocent remark typed in the online environment can be misconstrued. Students must always re-read their responses carefully before posting them, so as others do not consider them as personal offenses. *Be positive in your approach with others and diplomatic in selecting your*

words. Remember that you are not competing with classmates, but sharing information and learning from others. All faculty are similarly expected to be respectful in all communications.

- **Accommodations:** Online learners who require effective accommodations to insure accessibility must be registered with George Mason University Disability Services.

## Required Texts

Severini, Thomas (2020). *Analytic Methods in Sports: Using Mathematics and Statistics to Understand Data from Baseball, Football, Basketball, and Other Sports* (2<sup>nd</sup> Edition). Boca Raton, FL: CRC Press.

## Course Performance Evaluation

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, Tk20, hard copy).

<b>Assignments and Examinations:</b>	<b>% of Grade</b>
<b>Discussion Boards:</b> Seven prompted discussion board posts and subsequent responses to two other posts. Discussion participation includes active engagement and appropriate responsiveness.	15%
<b>Terms and Concepts Quizzes:</b> Students are required to complete 6 quizzes in which they will demonstrate knowledge gained through textbook readings	20%
<b>R/Excel Assignments:</b> Students will be required to learn both the statistical platform R and the Microsoft platform Excel, which are the industry standards in relation to sport analytics. Students will use textbook lessons in conjunction with R/Excel video tutorials to analyze large sport related datasets and demonstrate comprehension and techniques learned throughout the course.	30%
<b>Final Project:</b> Students will take a culmination of knowledge learned through textbook readings, video tutorials and assignments throughout the semester to create their own unique statistic and data visualizations using a given dataset. They will showcase their R/excel skills by using these programs to perform statistical analyses on this data set to create this new statistic. Finally, students will evaluate their work by preparing a 10-page paper, explaining the processes they went through to create and evaluate their statistic and how their statistic may have practical use for a sport entity or organization.	35%
<b>Total</b>	100%

## Grading Policies

A = 94 – 100	B+ = 88 – 89	C+ = 78 – 79	D = 60 – 69
A- = 90 – 93	B = 84 – 87	C = 74 – 77	F = 0 – 59
	B- = 80 – 83	C- = 70 – 73	

## Course Schedule:

Chapter	Week:	Week Start	Week End	Assignments Due
1	1	25-Jan	31-Jan	Course intro, Syllabus, Instructor Intro, Trading Card Discussion Board, Read Chapter 1
2	2	1-Feb	7-Feb	Read Chapter 2 Textbook, Watch Excel Tutorial/Assignment Video, Complete Terms and Concepts Quiz,
	3	8-Feb	14-Feb	Discussion Board 2, Excel Introduction Assignment
3	4	15-Feb	21-Feb	Read Chapter 3, Watch Excel Tutorial/Assignment Video, Terms and Concepts Quiz
	5	22-Feb	28-Feb	Discussion Board 3, Excel Assignment
4	6	1-Mar	7-Mar	Read Chapter 4, Watch Excel Tutorial/Assignment Video, Terms and Concepts Quiz
	7	8-Mar	14-Mar	Discussion Board 4, Excel Assignment
5	8	15-Mar	21-Mar	Read Chapter 5, Watch R Tutorial/Assignment Video, Terms and Concepts Quiz
	9	22-Mar	28-Mar	Discussion Board 5, R Intro/Assignment
6	10	29-Mar	4-Apr	Read Chapter 6, Watch R Tutorial/Assignment Video, Terms and Concepts Quiz
	11	5-Apr	11-Apr	Discussion Board 6, R Assignment
7	12	12-Apr	18-Apr	Read Chapter 7, Watch R Tutorial/Assignment Video, Terms and Concepts Quiz
	13	19-Apr	25-Apr	Discussion Board 7, R Assignment
Final	14	26-Apr	2-May	Final Week - Final Project Week - Due 5/2
	15	3-May	10-May	Exam Week - Final Project due 5/2

## Professional Dispositions

Students are expected to exhibit professional behaviors and dispositions at all times.

## Core Values Commitment

The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: <http://cehd.gmu.edu/values/>.

## GMU Policies and Resources for Students

### *Policies*

- Students must adhere to the guidelines of the Mason Honor Code (see <http://oai.gmu.edu/the-mason-honor-code/>).
- Students must follow the university policy for Responsible Use of Computing (see <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- Students are responsible for the content of university communications sent to their Mason email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students **solely** through their Mason email account.

- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see <http://ods.gmu.edu/>).
- Students must follow the university policy stating that all sound emitting devices shall be silenced during class unless otherwise authorized by the instructor.

### *Campus Resources*

- Support for submission of assignments to Tk20 should be directed to [tk20help@gmu.edu](mailto:tk20help@gmu.edu) or <https://cehd.gmu.edu/api/tk20>. Questions or concerns regarding use of Blackboard should be directed to <http://coursessupport.gmu.edu/>.
- The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing (see <http://writingcenter.gmu.edu/>).
- The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance (see <http://caps.gmu.edu/>).
- The George Mason University Office of Student Support staff helps students negotiate life situations by connecting them with appropriate campus and off-campus resources. Students in need of these services may contact the office by phone (703-993-5376). Concerned students, faculty and staff may also make a referral to express concern for the safety or well-being of a Mason student or the community by going to <http://studentsupport.gmu.edu/>, and the OSS staff will follow up with the student.

**Notice of mandatory reporting of sexual assault, interpersonal violence, and stalking:** As a faculty member, I am designated as a "Responsible Employee," and must report all disclosures of sexual assault, interpersonal violence, and stalking to Mason's Title IX Coordinator per University Policy 1202. If you wish to speak with someone confidentially, please contact one of Mason's confidential resources, such as Student Support and Advocacy Center (SSAC) at 703-380-1434 or Counseling and Psychological Services (CAPS) at 703-993-2380. You may also seek assistance from Mason's Title IX Coordinator by calling 703-993-8730 or emailing [titleix@gmu.edu](mailto:titleix@gmu.edu).

**For additional information on the College of Education and Human Development, please visit our website <https://cehd.gmu.edu/>.**