

Sport Performance Analytics

SPM 3703

Class 25055

3 Credits | Fall 2025

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Course Information

INSTRUCTOR

Gidon Jakar, Ph.D.

Office Phone: 352-294-1685

Preferred Method of Contact: gkalar@ufl.edu

Expect a response within 24 hours M – F, 48 hours after 4pm Fri, and 48 hours on Sat or Sun

OFFICE HOURS

Tuesdays 1:00 pm – 3:00 pm or by appointment

MEETING

Tu: Period 2-3 (8:30-10:25), Th: Period 3 (9:35-10:25)

TIME/LOCATION

MAT 108

COURSE DESCRIPTION

Students are introduced to the dynamic and captivating field of sport analytics, with a strong emphasis on performance analytics. Through a blend of theoretical principles and hands-on practical experience utilizing the R programming language, students will acquire the essential skills and knowledge required not only to proficiently analyze sport performance data but also to leverage these insights to comprehend athletic performance. In addition to mastering data analysis techniques, students will learn how to make data-informed decisions that directly impact sport management strategies and overall performance in the sports world. The course empowers students to actively engage in the ever-evolving realm of sport analytics, contributing to the continuous improvement of athletes and team management.

PREREQUISITE KNOWLEDGE AND SKILLS

- STA 2023 & Sophomore standing & above

REQUIRED TEXTBOOK

Required reading:

There are no required textbooks, but some recommended readings include:

- Winston, W. L., Nestler, S., & Pelechrinis, K. (2022). *Mathletics: How gamblers, managers, and fans use mathematics in sports*. Princeton University Press.
- Chartier, T., & Earle, A. (2022). *Get in the Game: An Interactive Introduction to Sports Analytics (First Edition)*. University of Chicago Press. ISBN: 9780226811147.

- Eager, E., & Erickson, R. (2023). Football Analytics with Python & R: Learning Data Science Through the Lens of Sports (1st Edition). O'Reilly Media. ISBN: 9781492099628.
- Schoenfeld, B. (2023). Game of Edges: The Analytics Revolution and the Future of Professional Sports. Norton & Company. ISBN: 9780393531688.

MATERIALS AND SUPPLY FEES

There are no supply or material fees for this course.

The instructor will utilize R and RStudio software and Excel for various data analyses examples throughout the course. Please note that the instructor will only address programming inquiries related to the ones displayed during the class. Since this includes some references to analytics, some lectures will be dedicated to covering fundamental aspects of R, RStudio, and Excel. It is advisable for students to have a basic familiarity with these cost-effective and trending technologies. It is recommended students have RStudio installed on their computers, as the instructor will include some RStudio references and examples throughout the course during lectures and supplementary material. The course will also include Yellowdig for the review and discussion sections of the course including the reading material and podcasts.

How to obtain and install R

1. Go to <http://www.r-project.org>
2. Click on CRAN (left side panel) and select a mirror for download.
3. Select your operational system
4. Click on “Base” to download the program.

How to obtain RStudio.

1. Install R using the instructions above.
2. Go to www.rstudio.org
3. Follow the website's instructions for downloading and installation.

RStudio and Excel – online

1. RStudio can all be accessed via UF Apps <https://info.apps.ufl.edu/>
2. Excel can be accessed via GatorCloud <https://cloud.it.ufl.edu/collaboration-tools/office-365/>

Qualtrics

1. Access Qualtrics via UF eLearning <https://elearning.ufl.edu/supported-services/qualtrics/>

COURSE FORMAT

- **Instructional Methods:** This course consists of an in-person section. You are responsible for observing all posted due dates and are encouraged to be self-directed and take responsibility for your learning. The virtual section will be primarily technical going over Excel.
- **Minimum Technology Requirements:** The University of Florida expects students to acquire computer hardware and software appropriate to his or her degree program. Most computers can meet the following general requirements. A student's computer configuration should include:
 - Broadband connection to the Internet and related equipment (Cable/DSL modem)
 - Microsoft Office Suite installed (provided by the university)
- **Minimum Technical Skills:** To complete your tasks in this course, you will need a basic

understanding of how to operate a computer, and how to use word and Excel processing software.

- **Lectures & Assignments:** Students will attend lectures and either attend or watch recorded lectures, and complete weekly assignments and discussions based on assigned due dates.

COURSE LEARNING OBJECTIVES

By the end of this course, students will be able to:

- Develop a solid grasp of sport analytics and its ethical considerations and recognize its significance in the sport business domain.
- Apply data manipulation and visualization techniques using R, with a specific focus on sport consumer behavior, marketing, and management applications.
- Utilize regression analysis for evaluating sport performance and solving sport management problems.
- Describe the historical context and practical implications of the Moneyball revolution in sport analytics, relating it to sport business.
- Integrate knowledge and skills from sport analytics and sport management to make data-informed decisions in sport business scenarios.

EVALUATION REQUIREMENTS AND GUIDELINES

Grading for this course includes participation in class, individual weekly assignments, individual midterm project, and a final group project. The overall distribution is as follows and final grading follows the university's grading translation into letter grading (below):

Assignment	Assignment grade	Final grade
Reading reflections (10)	10pts = 100pts	32%
Datacamp (6)	10pts = 60pts	20%
Midterm project (Survey)	50pts = 50pts	16%
Final project	100pts = 100pts	32%
Total grade	310	100%

Assignments and exams:

- **Attendance:** Attendance will not be taken unless there is a substantial absence of several students as the semester progresses. However, please note the in-class discussions on the reading materials and university policies regarding attendance (this will be enforced if a student is notably absent from several classes).
- **General guidelines:**
 - Assignments submitted as documents should include the student's name in the document's title (e.g., gidon_jakar_assignment1.xlsx)
 - Assignments including text submitted as documents should be as follows:
 - Include name in title
 - Times New Roman 12 with 1.5-2 space
 - Figures and tables must be cited in text and include captions ([link](#))

- Data sources must be cited
- **Reading reflection assignments (10 x 10pts = 100 pts maximum):** There will be thirteen weekly reading assignments that will include brief reflections on each one and that will be discussed in class.
 - Students will write brief reflections (2-3 paragraphs) on the reading material and submit them on Canvas. Reflections will include a brief overview of the assigned study and personal thoughts and reflections related to the study. Students will also be expected to engage with others' reflections in class as part of the grade. Please refrain from copying text from the readings and plagiarism such as using AI.

Criterion	Exemplary	Proficient	Proficient-	Score
Reading assignment	8-10	6-7	4-5	_____/10 pts
	The student submitted the assignment and coherently discussed the topic of the assignment	The student submitted a partial assignment and/or only got the answers partially correct	Failed to submit an assignment, address the actual topic, submit an insufficient assignment	

- **Datacamp**
 - Students will complete brief introductory assignments on the Datacamp website using different software. Students are not required to complete sections that require payment. You will upload screenshots to Canvas indicating you completed the assignment up until the section requiring payments.
- **Midterm:** During the 8th week of the semester there will be a take-home midterm exam/project that will include short open-ended questions and the construction of a survey using Qualtrics. Further details will be provided nearer the time. Grading of the open-ended questions (20/50 total points, Survey 30/50) in the midterm will follow the grading rubric below:

Criterion	Exemplary	Proficient+	Proficient	Proficient-	Unsatisfactory	Score
Open-ended questions (10)	20	16	12	8	0-7	_____/20 pts
	Answer questions in a clearly articulated manner	Answer questions in a clearly articulated manner but missing information	Answer question partially correct and/or failed to articulate the answer in a clear way	Incorrect answer but evidence of attempt to answer question	Did not answer the question or answered insufficiency	

- **Final project:** In the final project students will be given a dataset that they will need to analyze and describe using tools covered in class and other available tools (there can be some use of AI tools that students will need to disclose if used). Further details regarding

the final project will be provided nearer the time. There will also be a brief discussion in class discussing the final project.

Criterion	Exemplary	Proficient	Proficient-	Unsatisfactory	Score
Written discussion	(95-100 pts)	(85-94)	(65-84)	(0-65)	_____/100 pts
	The student clearly articulated their argument, referenced concepts and information gathered during the semester, and included data to back their argument	Presented their argument but failed to do the following: adequality reference concepts and information gathered during the semester / included data to back their argument	Presented their argument but failed to more than one of the following: adequality reference concepts and information gathered during the semester / included data to back their argument	Did not submit this section or failed to answer the question adequately (missing several important components)	

GRADING SCALE

The final letter grades will be based on UF grading policies as shown in the table below following the aggregation of the grades in each of the assignments and the final project:

- More detailed information regarding current UF grading policies can be found here: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>.

Letter Grade	Percent of Total Points Associated with Each Letter Grade
A	93-100
A-	90-92
B+	87—89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
E	0-59

Students will be graded in accordance with UF policies for assigning grade points as articulated in the link that follows. <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Course & University Policies

ATTENDANCE POLICY

Attendance guidelines follow the University's guidelines outlined below. While attendance will not be recorded during class, there will be weekly deliverables, and it is expected that students will attend all classes unless circumstances prevent them from attending and an email was sent prior to class.

<https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

For all planned absences, a student in a situation that allows an excused absence from a class, or any required class activity must inform the instructor as early as possible prior to the class. For all unplanned absences because of accidents or emergencies, students should contact their instructor as soon as conditions permit.

HONOR CODE POLICY

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code specifies behaviors in violation of this code and sanctions. Click here to read the Honor Code <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

MAKE-UP POLICY

- Late assignments will not be accepted unless in accordance with UF's Attendance
- Policies: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>. For all planned absences (late submission), a student in a situation that allows an excused absence (late submission) from a class, or any required class activity must inform the instructor as early as possible prior to the class. For all unplanned absences because of accidents or emergencies, students should contact their instructor as soon as conditions permit.

TECHNOLOGY PROBLEMS

- Technology is not an acceptable excuse for late work including assignments and quizzes.
- If technology becomes an issue in submitting assignments or other work to eLearning, please contact the UF Help Desk 352-392-HELP (4357).
- After contacting the Help Desk, ensure you receive a ticket number with the time, date, and explanation of the problem for your records.
- You must email the instructor within 24 hours of the technical difficulty.

ACCOMMODATING STUDENTS WITH DISABILITIES

- Accommodating students with disabilities is especially important to me. If you are aware of your
- disability or might be concerned you have a disability, please register with the Disability Resource Center by visiting their Get Started page at <https://disability.ufl.edu/students/get-started/>, call them at 352-392-8565, online <https://accessibility.ufl.edu/>, or visit the Dean of Students Office. Once registered, please contact me via email or in person during the first two weeks of class to provide me with a copy of your accommodation letter to ensure I fully understand your needs. It is my goal to provide you with the tools necessary to ensure you are successful in this course.

ZOOM

- Zoom is an easy-to-use video conferencing service available to all UF students, faculty, and staff that allows for meetings of up to 100 participants. You can find resources and help using Zoom at <https://ufl.zoom.us>.

COURSE EVALUATIONS

- Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

SOFTWARE USE

- All faculty, staff, and students at the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

CIVILITY, ACCESSIBILITY, AND COMMUNITY RESOURCES

I'm committed to creating an environment of inclusion that respects and affirms the fundamental dignity, value, and distinctiveness of all individuals and their perspectives. My teaching will reflect the understanding of the complexity of identity and the mutuality of our global community. It is my responsibility to help promote and maintain a community of compassion, embracing the rich depths of diversity, while facilitating opportunities for equity and inclusion.

Getting Help

STUDENT SUPPORT

- **U Matter, We Care:** If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575.
- **Counseling and Wellness Center:** <https://counseling.ufl.edu/>, 352-392-1575.
- **Crisis Lifeline:** 988
- **Sexual Assault Recovery Services (SARS):** Student Health Care Center, 392-1161.
- **University Police Department:** 392-1111 (or 911 for emergencies) <http://www.police.ufl.edu/>.
- **Student Health Care Center:** Call 352-392-1161 for 24/7 information to help you find the care you need or visit shcc.ufl.edu.
- **UF Health Shands Emergency Room/Trauma Center:** For immediate medical care in Gainesville, call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; ufhealth.org/emergency-room-trauma-center.

ACADEMIC SUPPORT

- **E-learning Technical Support:** UF HELP Desk - 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>
- **Career Connections Center, Reitz Union:** 392-1601. Career assistance and counseling. <https://career.ufl.edu/>
- **Library Support:** <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using libraries or finding resources.
- **Teaching Center, Broward Hall:** 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>
- **Writing Studio, 302 Tigert Hall:** 846-1138. Help with brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>
- **Student Complaints On-Campus:** <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>
- **On-Line Students Complaints:** <http://distance.ufl.edu/student-complaint-process/>

Weekly Tentative Course Schedule

This course schedule below is tentative and might change based on the pace of the lectures and student needs; however, changes will be announced through CANVAS. The instructor bears no responsibility for announcing the changes to each individual student. All times are in Eastern Standard Time (EST).

CRITICAL DATES & UF OBSERVED HOLIDAYS

- Martin Luther King, Jr's Birthday – Monday, January 20th
- Spring break: March 17-21
- Complete list available here: <https://catalog.ufl.edu/UGRD/dates-deadlines/2023-2024/#fall23text>

Module	Assignments
Module 1	
Week 1: Introduction	
Module 2	
Week 2: Careers in analytics	Datacamp assignment 1 / reading assignment 1
Week 3: Data Applications – Applications and Software	Datacamp assignment 2 / reading assignment 2
Week 4: Data Applications – Visualization	Datacamp assignment 3 / reading assignment 3
Module 3	
Week 5: Data and Research – Performance Data	
Week 6: Data and Research – Fan Demographics	Reading assignment 4
Week 7: Sports Performance Analytics – Player Development	Datacamp assignment 4 / reading assignment 5
Week 8: Midterm	Midterm
Week 9: Sports Performance Analytics – Scouting	Datacamp assignment 5 / reading assignment 6
Week 10: Sport Business Analytics – Dynamic Pricing	Reading assignment 7
Week 11: Sport Business Analytics – Sponsorship	Reading assignment 8
Week 12: Sport Business Analytics – Growth and Strategy	Reading assignment 9
Module 4	
Week 13: Decision making – Using and translating data (1)	Datacamp assignment 6 / reading assignment 10
Week 14: Decision making – Using and translating data (2)	
Week 15:	Thanksgiving break
Week 16: Final notes	Final project

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