

Intro to Sports Statistics & Analytics

DTSC 1110

Spring 2023

Instructor Information

Instructor	Email	Office Hours
John Tobias	jtobias@uncc.edu	Colvard Building (Office 1028H) Tues & Thurs (9am-3pm);

General Information

Description

The principles of data science meet sports analytics. When a TV Broadcaster says Steph Curry has scored or assisted on the last 31 points, where does he get that from? Or 18 of Odell Beckham's 21 catches have resulted in a first down. This course will cover the analytical thinking behind the data revolution in sports and how it greatly impacts a sports franchise, a TV broadcast, when a player is up for free agency and many more topics.

This class will consist of lectures, guest speakers from the sports industry and will culminate with several individual and group projects.

Expectations and Goals

Upon successful completion of this course, students will:

1. Improve their overall problem solving and critical thinking ability
2. Gain an understanding of basic statistical concepts and their applications in the sports world
3. Obtain a broad survey of the methods used in sports data acquisition, processing, analysis, visualization and implementation
4. Develop the ability to recognize, formulate, and analyze decision-making in sports.

Required Text

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Sports Analytics: A Guide for Coaches, Managers & Decision Makers, Ben Alamar (Don't purchase yet)

Basketball on Paper: Rules & Tools for Performance Analysis, Dean Oliver (Don't purchase yet)

Website: All course material will be on Canvas (myuncc.edu).

Grading

Course participation includes reading and commenting on the class Web Forum. Guest speaker questions, book review quizzes and the article report are to be done individually. The final project is to be done in groups of 2-4 (depending on overall class size).

Individual/Group Projects 40%

Spring Sports Project 25%

Classroom Assignments 25%

Course Participation/Attendance- 10%

Total (100 points) 100%

Grading Scale

The following shows the grading scale to be used to determine the letter grade. Percentage of total points:

90% - and above A

87% - 89% B+

80% - 86% B

77% - 79% C+

70% - 76% C

67% - 69% D+

60% - 66% D

59% and below F

Course Schedule

Week	Subject		
Week 1 (1/9)	Introduction & Expectations		

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<p>Week 1/2 (1/11-1/20)</p> <p>Spring Sports Project (Preparation)</p> <p>During this semester, each student will have an opportunity to attend a sporting event on campus (soccer, baseball, basketball, softball, tennis, volleyball, football spring game). The purpose of this is to be able to have the ability to accurately notate game information in real-time (while the game is being played). I will spend the next few weeks preparing you for this spring project by breaking down college basketball games, NFL Playoff games & Premier League games</p>
<p>Week 3 /4 (1/23-1/30)</p> <p>Arsenal (Premier League)- Guest Speaker- Arsenal Analytics Team Team USA Soccer Federation-Guest Speaker- USMNT/USWNT Analytics Team</p> <p>Students will get the distinct chance to learn the value of analytics when it comes to evaluating team & player performance from Arsenal’s Analytics Department & USMNT/USWNT Analytics Team. Students will also have the opportunity to have a Q&A with Arsenal’s Analytics Department & the USMNT/USWNT Analytics Team regarding career advice, their World Cup experience & much more.</p> <p>I, along with both Arsenal & Team USA will determine an individual or group project to give to the class with the goal to enhance your ability when tracking quality data.</p>
<p>Week 4/5 (2/1-2/10)</p> <p>Football Analytics -Predicting Super Bowl LVII</p> <p>This week students will learn about the rise of analytics in football and be taught important metrics on what decides a football game. We will use these methods to predict who will win Super Bowl LV.</p>
<p>Week 6 (2/13-2/17)</p> <p>High School Football/National Signing Day-Guest Speaker CFB Recruiting Insiders</p> <p>National Signing Day for high school football & basketball players has become “must see TV” in the last 5-10 years. This week, we will be fortunate to have some of the top insiders in the country for high school football to talk about how the landscape has changed & how advanced stats & analytics have played a big role in that change.</p>
<p>Week 7 (2/20-2/24)</p> <p>MLB Analytics Guest Speaker Tampa Bay Rays Analytics Department</p>

Analytics in baseball (also known as sabermetrics) has always been ahead of the curve compared to professional. This week members of the Tampa Bay Rays Research & Development Team will show students the blueprint on how they evaluate their major league & minor league players.

Week 8 (2/27-3/3) Spring Break

Week 9 (3/6-3/10)

Business of College Athletics & Talk About Player Likeness

During the pandemic, very few businesses have been hit harder than college athletic programs; especially the programs that did not have sports in 2020. However, student athletes will now get an opportunity to capitalize on their "Name, Image & Likeness". We will examine the revenue streams that make college athletic programs profitable & what creative ways student athletes can now generate income.

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Week 10 (3/13-3/17)

Project- March Madness

This will be one of the most fun yet productive weeks that you will have during this semester.

Professor Tobias will be working the NCAA Men's Tournament this week in Greenville & you will be assisting him with advanced statistics of the teams that he will be covering.

Week 11/12 (3/20-3/27)

Carolina Panthers & the NFL -Guest Speaker Taylor Rajack (Carolina Panthers Director of Analytics)

In most cases when a team has a good record or bad record, the product that is on the field is a direct reflection on the decisions that were made from the front office (Coach, GM, Owner, etc). As teams prepare for the NFL Draft on April 28th, we will do a deep dive on the Carolina Panthers & other teams by not only looking at the current situation that they are in, but the decisions that need to be made to put them in a better position for 2023 & beyond.

Week 12/13 (3/29-4/7)

ESPN Broadcaster (Mike Couzens & Mike Monaco)

Two of ESPN's best broadcasters (Mike Couzens & Mike Monaco) will talk with students on the value of stats & analytics when it comes to broadcasting live events. As a project, students will be placed in a debate style format to 1) learn how to effectively articulate their argument & 2) basing their argument with concrete data & analytics.

Week 14/15 (4/10-4/17)

Charlotte Hornets -Guest Speaker (Charlotte Hornets Analytics Department)

Students will get an opportunity to learn the value of analytics when it comes to evaluating team & player performance from the Charlotte Hornets Analytics department. The Charlotte Hornets have had a lot of activity both on & off the court in the since 2020 & students will get a chance to dissect & predict what this will mean as they make a run to making the playoffs for the first time since 2015.

Course Policies

Syllabus Changes:

The standards and requirements set forth in this syllabus may be modified at any time by the course instructor. Notice of such changes to this syllabus posted on the course Canvas website.

Attendance:

Students are expected to attend all class meetings and to arrive before the class starts. Class topics are integrated, with each week building on prior weeks. Failure to attend or to arrive on time can adversely affect both individual performance, ability to contribute to the group project, and the earned letter grade. If a student misses a class due to work or other reasons, it is their responsibility to get notes from peers; instructors do not hold extra repeat class sessions.

In Class Participation grades will be 0 for classes that are missed.

Students are encouraged to work directly with their instructors regarding class absences for medical appointments, military/court orders, and/or personal and family emergencies, such as a death in the immediate family, where a student is able to provide an instructor with appropriate supporting documentation of the absence. The final decision for approval of absences and missed work or make-up work is determined by the instructor.

The Office of Student Assistance and Support Services (SASS) can provide notification to faculty of emergency situations, when a student is unable to do so and when the office has been made aware of such emergencies. In such situations, the SASS office may also be able to assist with verification of such emergencies, once a student is able to return to classes. The SASS

office does not provide verification of absences for car trouble, weather issues, personal

activities, work, weddings, vacations, or University-sponsored events. Absences related to such activities should be discussed directly with the faculty member.

Should a student need assistance from the SASS office in verifying an emergency situation,

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they can submit an online request form and attach supporting documentation. Please note that students are not required to go through the SASS office at any time regarding absence verification, and the SASS office does not have the authority to excuse absences, allow for make-up work, or provide other academic accommodations.

In cases of absence due to pregnancy or parenting (pregnancy, childbirth, false pregnancy, termination of pregnancy, or recovery from any of these conditions), students should contact the Title IX Office to obtain absence verification by completing the form at

<http://bit.ly/332eaGd>.

Grade Discussions:

The instructor will discuss grades only in person (and not via telephone or e-mail) and only with the student (not with parents, spouses, etc). Office hours are listed in the syllabus.

Electronic Devices:

Students are not allowed to use any electronic devices during the class, unless otherwise instructed by the instructor.

Inclement Weather:

University Policy states the University is open unless the Chancellor announces that the University is closed. The inclement weather hotline number to call is 704-786-2877. In the

event of inclement weather, check your email and NinerAlerts. The instructors generally only cancel class if the University is closed.

COVID-19 Protection:

It is the policy of UNC Charlotte for the Fall 2020 semester that as a condition of on-campus enrollment, all students are required to engage in safe behaviors to avoid the spread of COVID-19 in the 49er community. Such behaviors specifically include the requirement that all students properly wear CDC-compliant face coverings while in buildings including in classrooms and labs. Students are permitted to remove face coverings in classroom or lab settings only when I explicitly grant permission to do so (such as while asking a question, participating in class discussion, or giving a presentation) and while at an appropriate physical distance from others. Failure to comply with this policy in the classroom or lab may result in dismissal from the current class session. If the student refuses to leave the classroom or lab after being dismissed, the student may be referred to the Office of Student Conduct and Academic Integrity for charges under the Code of Student Responsibility.

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Students are expected to attend every class and remain in class for the duration of the session when it is safe to do so in accordance with university guidance regarding COVID-19. Failure to attend class or arriving late may impact your ability to achieve course objectives which could affect your course grade. An absence, excused or unexcused, does not relieve a student of any course requirement. Regular class attendance is a student's obligation, as is a

responsibility for all the work of class meetings, including tests and written tasks. Any unexcused absence or excessive tardiness may result in a loss of participation points.

Students are encouraged to work directly with their instructors regarding their absence(s). For absences related to COVID-19, please adhere to the following:

Do not come to class if you are sick. Please protect your health and the health of others by staying home. Contact your healthcare provider if you believe you are ill.

If you are sick: If you test positive or are evaluated by a healthcare provider for symptoms of COVID-19, complete this form to alert the University. Representatives from Emergency Management and/or the Student Health Center will follow up with you as necessary, and your instructors will be notified.

If you have been exposed to COVID-19 positive individuals and/or have been notified to self-quarantine due to exposure, complete this form to alert the University. Representatives from Emergency Management and/or the Student Health Center will follow up with you as necessary, and your instructors will be notified.

To return to class after being absent due to a COVID-19 diagnosis or due to a period of self-quarantine, students should submit an online request form to Student Assistance and Support Services (SASS). Supporting documentation can be attached directly to the request form and should be from a student's health care provider or the Student Health Center, clearly indicating the dates of absences and the date the student is able to return to class. Instructors will be notified of such absences.

If you are absent from class as a result of a COVID-19 diagnosis or quarantine, as instructor I will work with you to develop a plan to complete the course. The final decision for approval of

all absences and missed work is determined by the instructor.

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Code of Student Responsibility:

“The UNC Charlotte Code of Student Responsibility (the Code) sets forth certain rights and responsibilities in matters of student discipline. The Code defines these responsibilities and guarantees you certain rights that ensure your protection from unjust imposition of disciplinary penalties. You should familiarize yourself with the provisions and procedures of the Code” (Introductory statement from the UNC Charlotte brochure about the Code of Student Responsibility). The entire document may be found [here](#).

Academic Integrity:

All students are required to read and abide by the Code of Student Academic Integrity. Violations of the Code of Student Academic Integrity, including plagiarism, will result in disciplinary action as provided in the Code. Definitions and examples of plagiarism are set forth in the Code. The Code is available from the Dean of Students Office or online. Faculty may ask students to produce identification at examinations and may require students to demonstrate that graded assignments completed outside of class are their own work.

Course Credit Workload:

This 3-credit course requires 3 hours of classroom or direct faculty instruction and 2-4 hours of out-of-class student work each week for approximately 15 weeks. Out-of-class work may include but is not limited to: providing analytic data for one of the Charlotte teams, written assignments, project based assignments, and studying for quizzes.

Special Needs:

If you have a documented disability and require accommodation in this course, contact Disability Services, Fretwell 230, phone: 687 4355 voice/TDD) the first week of the semester. Information about available services may be found at Office of Disability Services. Accommodations for learning will be arranged by that office and communicated to the Instructor. If you speak English as a second language, please inform the instructor.

Diversity Statement:

UNC Charlotte strives to create an academic climate in which the dignity of all individuals is respected and maintained. Therefore, we celebrate diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.

All students are required to abide by the Sexual Harassment Policy and the Standard for Responsible Use of Information Resources. Sexual harassment, as defined in the UNC
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Charlotte Sexual Harassment Policy, is prohibited, even when carried out through computers or other electronic communications systems, including course-based chat rooms or message boards.

Religious Accommodation:

It is the obligation of students to provide faculty with reasonable notice of the dates of religious observances on which they will be absent by submitting a Request for Religious Accommodation to their instructor prior to the census date for enrollment for a given semester. The census date for each semester (typically the tenth day of instruction) can be found in UNC Charlotte's Academic Calendar.