

# Intro to Sports Statistics & Analytics

## DTSC 1110

Fall 2024

### Instructor Information

#### Instructor

John Tobias

#### Email

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#### Office Hours

T/R (9am-3pm); Colvard 1028H

### 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 Christian McCaffrey'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.

#### Attendance Expectations

Though this class is scheduled to be taught on M, W & F, there will be many cases (due to my weekend travel schedule with ESPN) where there won't be class on Friday. This means that I set a very high premium when it comes to attendance. Please read this carefully for your benefit: **If you miss two classes, your overall grade will drop by 10 points.** After two absences, any absence will cause an additional 5-point drop in your overall grade.

**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).

Fantasy Football (SDS League)- 10%

Course Participation/Attendance- 10%

Classroom Assignments 15%

Individual Projects 40%

Fall Sports Project 25%

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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

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#### Week 1

Introduction- Learning the Importance of Timing & Accuracy in Sports Analytics

Spring Sports Project (Preparation)

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#### Week 2/3 (8/26-9/6)

#### Fantasy Football

Students will learn about the rise of Fantasy Sports and the impact it has on global sports.

Students will participate in an NFL Fantasy Football League. Throughout the semester, students will learn critical thinking, as well as how to make educated decisions based on data science when

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**Week****Subject**

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selecting their starters and trading for assets. Students will have the opportunity to work with a tech company that provides models and tools to help create an optimal lineup.

**Week 4 (9/9-9/13)****Charlotte Athletics (Recruiting)**

With the big move to The American Conference, effectively recruiting the right student-athletes is at an all-time high. We will examine college recruiting both from a Power-5 & Group of 5 perspective

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**Week 5/6 (9/16-/9/27)****Charlotte FC (MLS)- Guest Speaker- Charlotte FC Scouting & Analytics Team**

Students will get the distinct chance to learn the value of analytics when it comes to evaluating team & player performance from Charlotte FC's Scouting & Analytics Department. Students will also have the opportunity to have a Q&A with them regarding career advice, what it's like to work for the team in its first season & much more.

I, along with Charlotte FC will determine an individual or group project to give to the class with the goal to enhance your ability when tracking quality data.

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**Week 7/8 (9/30-10/9)****Charlotte Hornets -Guest Speaker- Hornets Analytics Department**

Students will get an opportunity to learn the value of analytics when it comes to evaluating team & player performance. The Hornets have had a lot of activity both on & off the court in 2024 & will get a chance to dissect & predict what this will mean for the upcoming season.

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**Week 9 (Fall Break-Classes Resume on 10/16-Wednesday)****Sports Betting (FanDuel/DraftKings)**

The fastest rising genre in sports right now is sports betting. Companies like DraftKings & FanDuel are hiring data scientist & data analyst at an all-time high. And with more stats like North Carolina passing laws to make it legal to place bets, that trend will continue. We will have a prominent member of the sports betting world speak to the class along with giving students an educational but very hands-on project.

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**Week 10 Baseball Arbitration (10/21-10/25)**

With the World Series in full bloom, students will be educated on the way salary arbitration works in Major League Baseball. Students will also be given a project to test their new-found knowledge

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**Week 11/12 (10/28-11/8)****Business of College Athletics & Talk About Player Likeness**

During this 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 exam the revenue streams that make college athletic programs profitable & what creative ways student athletes can now generate income.

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**Week****Subject**

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**Week 13/14 (11/11-11/22)****ESPN Broadcaster (Reginald Walker)**

One of ESPN's best analysts (Reginald Walker) will talk with students on the value of stats & analytics when it comes to broadcasting live events. As a project, students will be put in my role of a TV statistician and taught how stats are used to educate a TV audience when games are played. Students will watch game film to give them an opportunity to come up with their own creative stats.

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**Week 15 (Thanksgiving-Week of 11/28)****Week 16 (Last Week of Classes)****The Importance of Data, Stats & Analytics when Negotiating Contracts (Sports Agent)**

Students are educated on how sports agents use stats & analytics when negotiating contracts for their clients. Students are given a project to determine if the Carolina Panthers should keep, release or resign their starting players who are up for free agency (after this season) based on stats & analytics as well as their draft position, & what players will be available either through free agency or the draft.

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**Weeks 3-15****Tracking Data at Charlotte Athletics Game (Fall Sports Project)**

Students will have the opportunity to sit courtside at a live game on campus with the goal to track data accurately in real time while the game is being played. Students will be graded strictly on accuracy & preparation.

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**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

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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, 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>.

Last Date of Attendance:

The United States Department of Education requires UNC Charlotte's Office of Financial Aid to determine if a student who receives financial aid and fails to earn a passing grade in a course has actually attended and/or completed the course. If you earn an F or U grade, your last date of attendance will be reported to the United States Department of Education. This may require you to pay back any financial aid funds received for this course.

(For additional information, see Last Date of Attendance FAQs on the Registrar's website.)

Absenteeism or Tardiness Policy: Students are expected to attend every class and remain in class for the duration of the session. 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.

**Class Absence(s):** The instructor has the authority to excuse a student's class absence(s) and to grant a student an academic accommodation (turn in a late assignment, provide extra time on an assignment, reschedule an exam, etc.). However, under Academic Affairs Policy on Course Attendance and Participation, University-sanctioned events or activities are considered excused absences. A University-sanctioned event or activity is one in which a student formally represents the University to external constituencies in athletic or academic activities. This policy does not supersede individual program attendance and/or participation requirements that are aligned with accreditation or licensure. For more information and student responsibilities to account for such an absence, see [provost.charlotte.edu/policies-procedures/academic-policies-and-procedures/course-attendance-and-participation](http://provost.charlotte.edu/policies-procedures/academic-policies-and-procedures/course-attendance-and-participation).

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. For absences due to religious observances, students must provide the instructor with written notice of requested accommodations no later than the 10th day of instruction for the

semester. The instructor and the student should then discuss what a reasonable accommodation should be in the given case and then document this agreed-upon accommodation. University Policy 409 provides more details about this procedure. The Office of Civil Rights and Title IX is available as a resource if students or faculty have questions about the process.

### **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 2023 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.

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.

### **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 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.