

**MBAD6201-U90/DSBA 6201 – U90
Business Intelligence and Analytics
Fall 2022**

INSTRUCTOR: Dr. Sungjune Park

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OFFICE HOURS: Tue 4:30 pm – 5:30 pm (Center City),
Wed 3:00pm – 5:00pm (Main Campus or via Zoom), and
by appointment via Zoom

CLASS HOURS: Tue 5:30 pm - 8:15pm, Center City Building 502

COURSE DESCRIPTION

An overview of the business approach to identifying, modeling, retrieving, sharing, and evaluating an enterprise's data and knowledge assets. Focuses on the understanding of data and knowledge management, data warehousing, data mining (including rule-based systems, decision trees, neural networks, etc.), and other business intelligence concepts. Covers the organizational, technological and management perspectives.

LEARNING OBJECTIVES

Business intelligence (BI) is a broad category of applications and technologies for gathering, storing, analyzing, and providing access to data to help enterprise users make better business decisions. BI applications include the activities of decision support systems, query and reporting, online analytical processing (OLAP), statistical analysis, forecasting, and data mining. The learning objectives of the course are thus:

1. To understand the role of business intelligence and analytics in today's competitive and turbulent business environment.
2. To be familiar with the terminology of the field, basic principles, and concepts of business intelligence and analytics.
3. To learn how to use and apply key methods for analytics (e.g., regression, decision trees, clustering, and association rule).
4. To use a range of tools (e.g., R, SAS Enterprise Guide/Enterprise Miner, IBM SPSS Modeler) appropriate for data analytics problems.

COURSE MATERIALS

- Handouts, slides, assignments, and online resources will be posted on Canvas.

- **Textbook:** There are no required textbooks as students will be provided with enough materials for each topic on Canvas. But, recommended texts are as follows:
 - *An Introduction to Statistical Learning: with Applications in R* by James, Witten, Hastie, and Tibshirani, ISBN-13: 978-1461471370 (Download e-book for free at <https://www.statlearning.com/s/ISLR-Seventh-Printing.pdf>)
 - *Data Science for Business: What you need to know about data mining and data-analytic thinking* by Provost and Fawcett, ISBN-13: 978-1449361327
 - *Data mining: concepts and techniques* by Jiawei Han, Micheline Kamber, and Jian Pei. Elsevier, 2011, ISBN-13: 978-0123814791, E-book can be checked out from the Atkins library at https://uncc.primo.exlibrisgroup.com/permalink/01UNCC_INST/5neftp/alm_a991010705997604091
- A scientific calculator that can do exponential and log calculations.

GRADING

Component	Points
Exams (2)	60
Assignments (5)	30
Stats Bootcamp	5
R Bootcamp	2
Class Participation	3
Total	100

Final grades will be based on the following scale.

A: 90 and above, B: 80-89.9, C: 70-79.9, U: 69.9 and below.

EXAMS

An opportunity to take an early or make-up exam is given to a student only if he/she provides legitimate and documented reasons. Permission must be obtained from the professor before the scheduled exam time. The format of make-up exams may differ from the format of the regularly scheduled exam.

Exams are **closed** book and notes when they are administered in class. The instructor will keep all exams. However, exam reviews are available during office hours or by appointment for 10 days after exam grades are posted. All exam grades will be posted on Canvas.

ASSIGNMENTS

Assignments will be posted at the end of the class at least a week before they are due. Solutions must be provided via Canvas only. Detailed information on assignments' tasks and expected work will be given with each assignment. Assignments are due on the given day with the start of class (5:30 pm) unless stated otherwise. In the case of a late submission on the same day, 20% of the points earned from the submission will be deducted. After the due date, the late homework may be accepted, but with a 50% penalty. Once the grade is posted or a week has passed after due date, whichever comes first, you will receive a 0 for the late assignment.

Each student must develop his or her own solutions to the assigned homework. Students may not "work together" on homework assignments. Such collaboration constitutes cheating unless it is a group assignment. A student may not use or copy (by any means) another's work (or portions of it) and represent it as his/her own.

Bootcamp courses

There are two bootcamp courses you need to take for this course. These courses will have to be completed by **September 11**.

1. *Statistics for Data Science Overview* (5pts)

You will get a full credit if you complete the first 5 modules. Otherwise, partial credit may be awarded depending on the progress/performance in the course. Estimated time required for completion is 10 hours.

2. *Introduction to R for Data Science* (2pts)

You can get a full credit if you successfully complete the first four modules (up to Module 4: Data Import) Estimated time required for completion is 4 hours.

There is no need to submit your certificates or show your progress to receive the credits. Your progress/completion report will be obtained directly from the School of Data Science TA who monitors student progress.

ATTENDANCE 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 DELIVERY METHOD

Students who enroll in face-to-face classes are expected to participate in person — just as they were before the pandemic. Students who believe they need disability accommodations in their face-to-face classes should contact the Office of Disability Services at 704-687-0040 or disability@uncc.edu.

Only in extremely rare situations may a faculty member alter course delivery and only after they have provided appropriate justification that has been reviewed and approved by the dean. Faculty do not have the authority to make course format changes informally without consultation with their dean.

There will be **no live streaming or recordings** of classes unless the delivery format completely switches to online delivery mode.

To protect the privacy of other students, students are not permitted to make their own recordings of class sessions or to share or distribute University recordings of class sessions. Students with specific electronic recording accommodations authorized by the Office of Disability Services may record classes; however, the instructor must be notified of any such accommodation prior to recording. Any distribution of such recordings is prohibited. See University Policy 402, Student Education Records (FERPA).

CLASS CONDUCT

Disruptive behavior in class distracts from the ability of others to profit from their in-class experience. Such disruptive behavior includes arriving late, leaving early, cell-phone interruptions, checking e-mail, surfing the net during the class, spending class time working on assignments for other classes, side conversations between two or more students during lecture, unnecessary comments that add no value to class, and any activities that negatively impact the ability of other students to learn and/or listen in class. Such behavior will be considered rude and inappropriate and will not be tolerated.

Students are permitted to use computers or tablets during class for **note-taking and other class-related work only**, but this should be done without distracting other students and without distracting you from the topic of discussion. Those using computers during class for work not related to that class must leave the classroom for the remainder of the class period.

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 at <https://legal.charlotte.edu/policies/up-407>.

Ownership of Course Materials

The lectures and course materials provided by the instructor including presentations, tests, quizzes, exams, videos, outlines, and similar materials are protected by copyright. The instructor is the exclusive owner of copyright in those materials instructor creates. You are encouraged to take notes and make copies of course materials for your own educational use. However, you may not, nor you may knowingly allow others to reproduce or distribute course materials publicly without instructor's express written consent. This includes providing materials to commercial course material suppliers such as **CourseHero**, **Chegg**, etc. and other similar services. Students who publicly distribute or display or help others publicly distribute or display copies or modified copies of the instructor's materials may be in violation of [University Policy - 406, the Code of Student Responsibility](#).

GRADE APPEALS

If you believe that the grade you received on an assignment, exam or other graded course component was in error or unfair, you can appeal to the professor in writing within 10 calendar days of the receipt of your grade. The appeal should clearly state the reasons why you believe the grade to be unfair or the nature of the error. Overdue appeals will not be considered.

INCOMPLETE GRADE POLICY

The incomplete is not based solely on a student's failure to complete work or as a means of raising his/her grade by doing additional work after the grade report time. An incomplete grade can be given when a student has a serious medical problem or other extenuating circumstance that legitimately prevents completion of required work by the due date. In any cases, the student's work to date should be passing, and the student should provide proper written proof (e.g., a doctor's note), in order to get an 'I' grade.

DISABILITY ACCOMMODATIONS

UNC Charlotte is committed to access to education. Students in this course seeking accommodations to disabilities must first consult with the Office of Disability Services and follow the instructions of that office for obtaining accommodations. Contact the Office of Disability Services at 704-687-0040 or visit their office in Fretwell 230.

Title IX REPORTING EXPECTATIONS

UNC Charlotte is committed to providing an environment free of all forms of discrimination and sexual harassment, including sexual assault, domestic violence, dating violence, and stalking. If you (or someone you know) has experienced or experiences any of these incidents, know that you are not alone. UNC Charlotte has staff members trained to support you in navigating campus life, accessing health and

counseling services, providing academic and housing accommodations, helping with civil protective orders, and more.

Please be aware that all UNC Charlotte employees, including faculty members, are expected to relay any information or reports of sexual misconduct they receive to the Title IX Coordinator. This means that if you tell me about a situation involving sexual harassment, sexual assault, dating violence, domestic violence, or stalking, I am expected to [report the information to the Title IX Coordinator](#). Although I am expected to report the situation, you will still have options about how your case will be handled, including whether or not you wish to pursue a formal complaint. Our goal is to make sure you are aware of the range of options available to you and have access to the resources you need.

If you wish to speak to someone confidentially, you can contact the following on-campus resources, who are not required to report the incident to the Title IX Coordinator: (1) University Counseling Center (caps.charlotte.edu, 7-0311); or (2) Student Health Center (studenthealth.charlotte.edu, 7-7400). Additional information about your options is also available at civilrights.charlotte.edu under the “Students” tab.

COURSE SCHEDULE

The Instructor reserves the right to change the course contents and schedule. The up-to-date course schedule is available on **Canvas**. Important announcements, specific policies regarding exams, etc. are also available on Canvas. It is the student's responsibility to be aware of any changes in the course schedule, course contents, and course policies by visiting Canvas regularly.

The Belk College of Business strives to create an inclusive 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.

Tentative schedule

Date	Topic	Due Dates
Aug 23	Introduction Business Intelligence and Analytics Overview Analytics tools (R and SAS)	
30	Data Analytics in Business: Drivers and Challenges Main Article: Big Data in Big Companies	
Sep 6	Statistics Review / Linear Regression	Stats and R Bootcamp
13	Linear Regression	
20	Linear Regression (Additional Issues) / Data Warehousing	
27	Classification – Logistic Regression	Regression Assignment
Oct 4	Classification - Naive Bayes, kNN, LDA, ...	Data Warehouse Assignment
11	Fall Recess – No class	
18	Exam 1	
25	Classification - Model Evaluation	
Nov 1	ROC / Decision Trees	
8	Decision Trees	ROC Assignment
15	Clustering	Decision Tree Assignment
22	Association Rule Mining	Clustering Assignment
29	Review	Association Rule Assignment
Dec 6	Exam 2	
Dec 13	Comprehensive Final Exam (optional), 5-7:30pm	