



School of Data Science

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**DSBA-6100-U90/MBAD-7090-U92: Data Analytics for Competitive Advantage**  
**Course Syllabus – Spring 2023**

**Instructor:** Dr. D. Blaine Nashold, Jr. **Thursday, 5:30–8:15 PM/Dubois Center**  
**Email:** [dnashold@uncc.edu](mailto:dnashold@uncc.edu) **(Uptown) 801**  
**Office hours:** Monday, 1–2 PM via Zoom **Course content: Accessible via [Canvas](#)**

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<b>Syllabus Overview</b>	This syllabus contains the policies and expectations established for DSBA-6100, Data Analytics for Competitive Advantage. Please read the entire syllabus carefully before continuing in this course. These policies and expectations are intended to create a productive learning atmosphere for all students. Unless you are prepared to abide by these policies and expectations, you risk losing the opportunity to participate further in the course.
<b>Required Text &amp; Materials:</b>	<ol style="list-style-type: none"><li>(1) Textbook: <b>There is no textbook for this course (no purchase required).</b> Required readings may include chapters, online articles, and analytics use cases. These resources are free and will be posted or hyperlinked on the class Canvas page well in advance of the relevant class period.</li><li>(2) Software: This class will use software such as SAS Enterprise Guide, Tableau, and Power BI. The instructor will provide instructions to access the software for free.</li><li>(3) Supplementary Materials: Lecture presentations, assignments, quizzes, and additional course materials will be posted and managed in the course section on Canvas.</li><li>(4) All students are required to have their own personal laptop computer which should adhere to the <a href="#">minimum requirements as per the laptop policy</a>. Students must have a working webcam and microphone in their laptop.</li></ol>
<b>Pre-requisites:</b>	<b><a href="#">SDS Bootcamp Courses</a>:</b> A solid foundation in statistics, Python, and R programming is critical for success in the SDS graduate programs and to prepare for a career in the field of data science. The SDS has developed three online, self-paced training courses to ensure that students have a strong foundation to support their graduate coursework. All SDS students enrolled are eligible and <b>encouraged</b> to take these training courses.
<b>Catalog Description:</b>	An introduction to the use of data as a strategic resource. A focus is placed on integrating the knowledge of analytics tools with an understanding of how companies leverage data analytics to gain strategic advantage. A case approach is used to emphasize hands-on learning and a real-world view of data analytics.
<b>Course Description:</b>	This course provides an overview of the use of data analytics as a strategic resource in creating competitive advantage for businesses. The focus is on

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integrating the knowledge of analytics tools with an understanding of how companies could leverage data analytics to gain strategic advantage. You will learn to think critically about complex business problems/questions in the real world and understand how data science and business analytics (DSBA) can be used to solve those problems/questions.

This class is **not** about learning or mastering Hadoop or Python programming or deriving data mining formulas. As such, you will not be taught any programming language or Hadoop coding in this class. Rather, the focus is on an awareness of the tools and techniques in data analytics and how they can be leveraged to address business opportunities and problems. Tools such as SAS Enterprise Guide, Tableau, and Power BI will be covered at a level appropriate for doing data wrangling, visualization, and modeling. More importantly, this course is designed to emphasize critical thinking and business problem-solving with data.

**Learning Objectives:**

1. Understand the role of data analytics in organizational strategy and how organizations can leverage useful data/information to gain competitive advantage and acquire insights.
2. Gain an introductory knowledge of the data science and business analytics tools that are useful in extracting intelligence and value from data.
3. Apply data analytics tools to analyze business opportunities and threats.
4. Use business cases/examples, develop data-driven strategies that enhance stakeholder relationships, open new market opportunities, and/or better position the organization for competitive advantage during industry transition.
5. Effectively communicate the findings from data analytics to a business audience.

**Grading:**

Component	%	%	Letter
Homework Exercises	25	90 and above	A
In-class Assignments/Quizzes	25	80 to 89	B
Group Project/Presentation	50	70 to 79	C
<b>Total</b>	<b>100</b>	60 to 69	D
		59 and below	F

**The course grades are posted on Canvas throughout the semester. I do not discuss individual student grades over email and do not negotiate grades.**

**Exams:**

- There are no exams for this course.

**Quizzes/In-class Assignments:**

- There will be short quizzes at various points in the semester on topics covered prior. There may also be in-class assignments.
- **You must complete each assignment on your own.** Any sharing between students will be considered a violation of the Academic Integrity Code and will result in a minimum grade of zero for the assignment with a possibility for further disciplinary action.

	<ul style="list-style-type: none"> <li>All changes in assignments or schedules will be posted on Canvas. It is your responsibility to keep up with the changes that are posted on Canvas.</li> </ul>
<b>Group Project:</b>	<ul style="list-style-type: none"> <li>The key tenet of this course is the use of data as a strategic resource. More directly, how the knowledge of analytical methodologies/tools combined with an understanding of how companies leverage data results in competitive advantage. Your group will be asked to think critically about real-world, complex business problems/questions and how data science and business analytics can be used to solve them. Groups will then research and analyze 1) an opportunity and 2) a solution using big data to provide a competitive advantage. Full details will be provided later in the semester.</li> </ul>
<b>Course Preparation:</b>	<ul style="list-style-type: none"> <li>Students are expected to study the posted materials (articles, cases, notes, presentations, etc.) prior to each respective session and be ready to answer questions related to the current topics.</li> </ul>
<b>Class Attendance:</b>	<ul style="list-style-type: none"> <li><b><u>A 2010 meta-analysis found that "class attendance is a better predictor of college grades than any other known predictor of academic performance."</u></b></li> <li>That said, I do not take attendance. I'll explain why in our first class...</li> <li>Students are expected to attend class and remain for the duration of the session. Failure to attend 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 the responsibility for all the work of class meetings, including tests and written tasks.</li> <li>If you earn an F or U grade, your last date of attendance will be reported. This may require you to pay back any financial aid money received for this course.</li> <li><b>Only absences verified and communicated to the Professor by the University's Student Assistance and Support Services will be excused.</b></li> <li>Students are expected to attend every class and remain in class for the duration of the session. <b>Arriving late to class or leaving early will lower your ability to achieve course objectives.</b></li> <li>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.</li> </ul>
<b>Leadership in the Classroom:</b>	<ul style="list-style-type: none"> <li><b>The class will be conducted in an atmosphere of mutual respect.</b> You are encouraged to have active participation in class discussions. Each of us may have strongly differing opinions on the various topics of class discussions. The conflict of ideas is encouraged and welcome. The orderly questioning of the ideas of others, including the instructor, is similarly welcome. However, the instructor will exercise responsibility to manage the discussions so that ideas and arguments can proceed in an orderly fashion. You should expect that if your conduct during class</li> </ul>

	<p>discussions seriously disrupts the atmosphere of mutual respect, you will not be permitted to participate further, and your grade will be impacted.</p> <ul style="list-style-type: none"> <li>• <b>Do not forward course emails or documents of any form</b> to those outside of the course without the knowledge and/or permission of the instructor.</li> <li>• <b>Do not email the instructor a copy and paste of quiz questions, canvas screenshots, or discussion questions from Canvas or other sources.</b> If you have questions, see the instructor in person during office hours or by appointment.</li> </ul>
<b>Electronic Devices in Class:</b>	<ul style="list-style-type: none"> <li>• <b>The use of cell phones, smartphones, or other mobile communication devices is disruptive and is therefore prohibited during class</b> unless being used as a part of and approved through disability services or at the instructor's discretion. Except in emergencies, those using such devices must leave the classroom for the remainder of the class period.</li> <li>• <b>Computers, smartphones, or smartwatches are prohibited during examinations.</b></li> <li>• <b>Electronic video and/or audio recording is not permitted during class</b> unless the student obtains permission from the instructor. If permission is granted, any distribution of the recording is prohibited. Students with specific electronic recording accommodations authorized by the Office of Disability Services do not require instructor permission; however, the instructor must be notified of any such accommodation prior to recording. Any distribution of such recordings is prohibited.</li> </ul>
<b>Grade Appeals Policy:</b>	<ul style="list-style-type: none"> <li>• If you believe that the grade you received on an assignment or an exam was in error or unfair, <b>you can appeal to the professor in writing within 7 calendar days after the grades are posted.</b> 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.</li> </ul>
<b>Student Academic Integrity:</b>	<ul style="list-style-type: none"> <li>• All students are required to read and abide by the <a href="#">Code of Student Academic Integrity</a>. 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.</li> <li>• 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.</li> </ul>
<b>Sexual Harassment in Web-Based or Web-Assisted Courses:</b>	<ul style="list-style-type: none"> <li>• All students are required to abide by the <a href="#">UNC Charlotte Sexual Harassment Policy</a> and the policy on <a href="#">Responsible Use of University Computing and Electronic Communication Resources</a>. 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.</li> </ul>
<b>Diversity and Inclusion:</b>	<ul style="list-style-type: none"> <li>• 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 the diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status</li> </ul>
<b>Non-Discrimination:</b>	<ul style="list-style-type: none"> <li>• All students and the instructor are expected to engage with each other respectfully. Unwelcome conduct directed toward another person based</li> </ul>

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upon that person's actual or perceived race, actual or perceived gender, color, religion, age, national origin, ethnicity, disability, or veteran status, or for any other reason, may constitute a violation of University Policy 406, The Code of Student Responsibility. Any student suspected of engaging in such conduct will be referred to the Office of Student Conduct.

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**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.

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**Religious Accommodation:**

- Students who, acting in accordance with this Policy, miss classes, examinations or other assignments because of a religious practice or belief must be provided with a reasonable alternative opportunity to complete such academic responsibilities. 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 Form](#) 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](#).

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**Withdrawal from Class:**

- Students are expected to complete all courses for which they are registered at the close of the add/drop period. If you are concerned about your ability to succeed in this course, it is important to make an appointment to speak with me as soon as possible. The University policy on withdrawal allows students only a limited number of opportunities available to withdraw from courses. It is important for you to understand the financial and academic consequences that may result from course withdrawal. <https://provost.uncc.edu/policies-procedures/academic-policies-and-procedures/withdrawal-and-cancellation-enrollment-policy>

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**Incomplete Grade:**

- The grade of "I" is assigned when a student who is otherwise passing has not, due to circumstances beyond his/her control, completed all the work in the course. The missing work must be completed by the deadline specified by the instructor, and no later than 12 months. If the "I" is not removed during the specified time, a grade of F, U, or N, as appropriate, is automatically assigned. The grade of "I" cannot be removed by enrolling again in the same course, and students should not re-enroll in a course in which they have been assigned the grade of "I."

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**Course Change Disclaimer:**

- The standards and requirements set forth in this syllabus may be modified at any time by the course instructor. Changes will be announced in class and will also be posted online.
- Students are responsible for all announcements made in class or announced via email. The instructors may send some information via Canvas announcements. It is the students' responsibility to keep up to date on the class-related information and to check their uncc.edu email regularly.

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**Copyright Ownership in Course Materials:**

- The lectures and course materials, including presentations, tests, exams, outlines, and similar materials, are protected by copyright. The instructor is the exclusive owner of the copyright in those materials created by the instructor. You are encouraged to take notes and make

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copies of course materials for your own educational use. However, you may not, nor may you knowingly allow others to reproduce or distribute lecture notes and course materials publicly without the express written consent of the instructor. This includes providing materials to commercial course material suppliers such as CourseHero and other similar services. Students who publicly distribute or display or help others publicly distribute or display copies or modified copies of an instructor's course materials may be in violation of University Policy 406, The Code of Student Responsibility. Similarly, you own the copyright in your original papers and exam essays. If the instructor is interested in posting your answers or papers on the course web site, the instructor will obtain your written permission.

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**Student Support Services**

- Be sure to take advantage of the wealth of resources and support available at UNC Charlotte. Some of the resources available to you include the University Writing Resource Center, University Counseling Center, and the J. Murrey Atkins Library, etc.
  - [University Center for Academic Excellent \(UCAE\)](#) | (704) 687 7837 | [unccucaae@uncc.edu](mailto:unccucaae@uncc.edu)
  - [University Writing Resources Center \(WRC\)](#) | 704-687-1899 | [wrcHELP@uncc.edu](mailto:wrcHELP@uncc.edu)
  - [Veteran Student Services](#) | 704-687-5488 | [veteranservice@uncc.edu](mailto:veteranservice@uncc.edu)
  - [University Counseling Center](#) | 704-687-0311
  - [Multicultural Resource Center](#) | 704-687-7121 | [mrc@uncc.edu](mailto:mrc@uncc.edu)
  - [List of computer labs on campus](#)
  - [Atkins Library Laptop Lending program](#)
  - [Health Support](#)
  - [Academic Support](#)
  - [Food Insecurity](#)
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## DSBA-6100/MBAD-7090 Tentative Course Schedule

This is a **general guideline** for the semester and **subject to change (and likely will)**. Updated information regarding exams, quizzes, assignments, and readings will be posted on Canvas.

Week	Date	Topic
1	01/12	Course Overview
		Data Analytics Refresher
2	01/19	Data Analytics Drivers, Challenges, and the Data Science Shift <ul style="list-style-type: none"> <li>• <b>Case Study:</b> Carvana: Good Data and Bad Buys</li> <li>• <b>Supplementary Article:</b> Pirelli Tires becomes Data Driven</li> </ul>
3	01/26	Data Sourcing and Management: Acquisition, Collection, Storage, and Analysis of Big Data
4	02/02	Data Wrangling: Cleaning, Transforming, and Preparing Data for Analysis
5	02/09	Data Wrangling with SAS Enterprise Guide
6	02/16	Data Visualization and Exploration in Tableau and Power BI <ul style="list-style-type: none"> <li>• <b>Case Study:</b> Data Analytics and Visualization at Toby Biotech</li> </ul>
7	02/23	Data Visualization and Exploration in Tableau and Power BI (cont.) <b>Guest Speaker</b>
8	03/02	<b>Guest Speaker</b> Introduction of Group Project
9	03/09	<b>SPRING RECESS – NO CLASS!!!</b>
10	03/16	Machine Learning Models and Current Industry Trends
11	03/23	Machine Learning Models and Current Industry Trends (cont.)
12	03/30	Text Analytics <b>Guest Speaker</b>
13	04/06	Text Analytics (cont.) <ul style="list-style-type: none"> <li>• <b>Case Studies:</b> <ol style="list-style-type: none"> <li>1. Text Mining and Sentiment Analysis in Hotel Booking</li> <li>2. Enhancing Visitor Experience at ISKCON</li> </ol> </li> </ul>
14	04/13	<b>Guest Speaker</b>
15	04/20	Data Ethics & Privacy Issues <b>Guest Speaker</b>
16	04/27	Group Project – Final Presentations