Course Description
This course provides an introduction to the use of big data analytics as a strategic resource. A focus is placed on integrating the knowledge of analytics tools with an understanding of how companies could leverage data analytics to gain strategic advantage.

Course Objectives
1. Understand the role of big data analytics in organizational strategy and how organizations can leverage information to gain competitive advantage.
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 big data analytics tools to reveal business opportunities and threats.
4. Using actual 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.

Instructional Method
This course will take a case approach, complemented by lectures, seminar style discussion and outside speakers. Students will be introduced to several topics and tools with emphasis through cases and projects on how to use them to generate firm value. The instructors will introduce students to analytics in Excel, SPSS, SAS, and R, among other software programs in applying big data analytic techniques to datasets.

While students should bring laptops with them to class for hands-on exercises, the focus of the class is not on mastering hadoop computer code or deriving formulas. Rather, the focus is on knowing which tools and softwares should be used to address each type of major business problem.

Credit Hours: This is a 3 credit hour course.
Required Readings:


There will be several business cases (PDFs or hyperlinked) and a series of topical article posted to the class moodle page.

Supplemental (Not Required) Readings (for those who want additional technical information):


Grading

The final grade will be determined on the following weights:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
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<tbody>
<tr>
<td>Exercises and Cases</td>
<td>100</td>
</tr>
<tr>
<td>Reading Notes</td>
<td>50</td>
</tr>
<tr>
<td>Exam 1</td>
<td>300</td>
</tr>
<tr>
<td>Exam 2</td>
<td>300</td>
</tr>
<tr>
<td>Final Group Term Project</td>
<td>250</td>
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<tr>
<td>Total</td>
<td>1000</td>
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Final letter grades will be based on the following totals:

- 900 and above: A (Superior Performance)
- 800-899: B (Good Performance)
- 650-799: C (Average Performance)
- Below 650: U (Unsatisfactory)

Please note that if you feel there is a grading error on an exercise, case, project, or exam, etc., you should bring this to the attention of the TA or instructor as soon as you receive your grade and no later than a week after you receive the grade. All grades will be treated as final two weeks after they are issued.
Exercises and Cases
Many of the topics in this course are often best understood through experiential learning. Thus, there will normally be weekly cases and exercises. Some cases and exercises will involve the entire class discussing a situation while others will be team-based discussion/answers. The teams for the exercises and cases will be randomly assigned by the instructors at the end of the second week of class. The group assignments will be listed in an Excel file posted to Moodle. Most cases/exercises will be posted on the class web page. Sometimes the web page may refer students to the class Moodle page or it may be emailed to the students. Exercises and cases will always be posted and/or announced at least one week in advance of the due date.

Attendance
Students are expected to attend all class meetings and to arrive before the class starts. Repeated failure to attend or to arrive on time can adversely affect the earned letter grade.

Reading Notes
Starting on the third week of the semester, students are expected to turn in a 3x5 card each class that has (1) the student name, (2) the student’s assigned note number (located in Moodle), and (3) 3 to 5 sentences summarizing the major insights from the class readings for that day. There will be a box at the front of the class to place the cards in. Once class begins the box will be shut and no more cards can be added to it. If a student is late or misses a class, they can make up the reading notes points by writing a 2 page single-spaced typed in-depth summary of the readings for that day. It must be turned in by the next class meeting with the student’s name and assigned note number on it along with the missed summary date.

Exams
There are two in-class individual based exams during the semester. They will be closed book exams most likely consisting of short answer, true/false, or multiple choice questions. They will cover both the assigned readings and the in-class content for the meetings prior to the exams.

Final Group Term Project
The final group term project is described in detail in a separate document posted on the class webpage during the second week of class.

Civility
The University strives to create an inclusive academic climate in which the dignity of all individuals is respected and maintained. We celebrate diversity that is beneficial to both employers and society at large. Students are strongly encouraged to actively appropriately share their views in class discussions.

Academic Integrity/Honesty
Students have the responsibility to know and observe the requirements of The UNC Charlotte Code of Student Academic Integrity. This code forbids cheating, fabrication or falsification of information, multiple submissions of academic work, plagiarism, abuse of academic materials, and complicity in academic dishonesty. This forbidding includes sharing/copying work between
individuals or teams without the permission of the instructor. Any special requirements or permission regarding academic integrity in this course will be stated by the instructor, and are binding on the students. Academic evaluations in this course include a judgment that the student’s work is free from academic dishonesty of any type, and grades in this course therefore should be and will be adversely affected by academic dishonesty. Students who violate the code can be expelled from UNC Charlotte. The normal penalty for a first offense is zero credit on the work involving dishonesty and further substantial reduction of the course grade. In almost all cases the course grade is reduced to F. The Academic Integrity Code is available online at http://legal.uncc.edu/policies/up-407. Standards of academic integrity will be enforced in this course. Students are expected to report cases of academic dishonesty to the course instructor.

Inclement Weather
University Policy Statement #13 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 the morning of class. The instructors will use their best judgment as to whether class should be held understanding that some of you commute from far away and the instructors will notify you by email if class is cancelled.

Other Information
Students are responsible for all announcements made in class and on the class webpage. Students should check the webpage and moodle throughout the semester. The instructors will send occasional emails with important information to the class listing in the Banner system. It is the students’ responsibility to make sure that their email addresses are accurate.

The instructors will discuss grades only in person (and not via telephone or e-mail) and only with the student (not with parents, etc); student e-mails other than related to the class may not be answered by the instructors.

Should students have questions, they are advised to include both instructors on emails (and the responding instructor will reply all) or they should see either of the instructors in person in their office by appointment.

The instructors may modify the class schedule and syllabus during the course of the semester depending upon the progress of the class. Thus, students are encouraged to not miss any normally scheduled class sessions—as exam timing may shift class sessions during the semester depending on the rate of class progress.

By attending class beyond the first week, students agree to follow the framework and rules related to this course that are described above.
**Tentative Calendar** *(Note: the schedule may change; the class webpage has the up-to-date calendar)*

<table>
<thead>
<tr>
<th>Date</th>
<th>Instructor</th>
<th>Tentative Topic</th>
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| 20-Aug | Zadrozny   | Introductions & Syllabus/Class Overview Part 1  
Understanding The Nature of Analytical Competition  
The Example of IBM Watson |
| 27-Aug | Hansen     | Introductions & Syllabus/Class Overview Part 2  
Understanding Data, Statistics, Analytics, Business Goals, and Competitive Advantage |
| 3-Sept | Zadrozny   | Managing Big Data Architecture: MapReduce, Big Insights, Hadoop |
| 10-Sept| Hansen     | Scaling up to Big Data Analytics: From Spreadsheets to SAS and SPSS to R in BigInsights and Hadoop |
| 17-Sept| Zadrozny   | Managing Big Data Architecture: Hadoop and Association Rules |
| 24-Sept| Hansen     | Understanding What Makes an Analytical Competitor  
Big Data Analytics Focus: Data Driven Positioning Strategies |
| 1-Oct  | Zadrozny   | Understanding Analytics and Business Performance  
Big Data Analytics Focus: Market Basket Analysis Analytics |
| 8-Oct  | Hansen     | Exam 1 |
| 15-Oct | Zadrozny   | Understanding Competing on Analytics w/ Internal Processes  
Big Data Focus: Search Engines |
| 22-Oct | Hansen     | Understanding Competing on Analytics w/ External Processes  
Big Data Analytics Focus: Market Segmentation |
| 29-Oct | Hansen     | Understanding A RoadMap to Enhanced Analytical Capabilities  
Big Data Analytics Focus: Predictive Models |
| 5-Nov  | Zadrozny   | Understanding Managing Analytical People  
Big Data Analytics Focus: Unstructured Text Mining, part 1 |
| 12-Nov | Hansen     | Understanding Architecture of Business Intelligence  
Big Data Analytics Focus: Visualization with Tableau, R, etc. |
| 19-Nov | Zadrozny   | Understanding the Future of Analytical Competition  
Big Data Analytics Focus: Text Sentiment Analysis, part 2 |
| 26-Nov | n/a        | No Class-Thanksgiving Break |
| 3-Dec  | Hansen & Zadrozny | Group Project Presentations |
| 10-Dec | Zadrozny   | Exam 2 |