Business Intelligence and Analytics
Fall 2019

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Office hours: After class or by appointment
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Venue: Center City

Course: MBAD 6201/DSBA 6201
Class Hours: Monday, 12:00 PM-2:45 PM
Venue: Center City, Room 801

Course Materials
Handouts, power-point slides, and Assignment Help documents will be posted on Canvas. You can print the posted material and bring them to class. Please note that I will not provide printed copies of any of the posted materials in the class.

Course Objectives:

As we transition from an industrial to knowledge economy, an organization's ability to create and successfully leverage data and knowledge assets will be an important competitive factor.

Data management includes an understanding of issues relating to modeling, using, securing, and sharing the organizational data resources. This course will focus specifically on the understanding of data warehousing, data mining (including rule-based systems, decision trees etc) and other knowledge management concepts.

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. (SearchCRM.com)

Knowledge management is an emerging discipline of how to effectively deploy technology, organizational practices, and processes to increase an organization's return on its knowledge capital.

This course will examine data and knowledge management from the organizational, technological, and management perspectives.

Software: SAS 9.4 and SAS Enterprise Miner
## Tentative course schedule

This is a tentative schedule and is subject to change. Please refer to Canvas for the most up-to-date schedule.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>ALL READING MATERIALS ARE POSTED ON CANVAS</th>
<th>Homework DUE</th>
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</thead>
<tbody>
<tr>
<td>Week 1</td>
<td></td>
<td>Introduction and course overview</td>
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<tr>
<td></td>
<td></td>
<td>Regression</td>
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<tr>
<td>Week 2</td>
<td></td>
<td>Labor Day - No Classes</td>
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<tr>
<td>Week 3</td>
<td></td>
<td>Regression</td>
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<td>Data Warehousing</td>
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<tr>
<td>Week 4</td>
<td></td>
<td>Data Warehousing</td>
<td>Regression Assignment Due 16 - Sept</td>
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<td>ROC Curves</td>
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<tr>
<td>Week 5</td>
<td></td>
<td>ROC Curves</td>
<td>Data Warehousing Assignment Due 23 - Sept</td>
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<td>Decision Table</td>
<td></td>
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<tr>
<td>Week 6</td>
<td></td>
<td>Decision Table</td>
<td>ROC curves assignment Due 30 - Sept</td>
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<td></td>
<td></td>
<td>Decision Tree</td>
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<td>Week 7</td>
<td></td>
<td>Student Recess - No Classes</td>
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<tr>
<td>Week 8</td>
<td></td>
<td>Exam I</td>
<td>(Will include everything till Decision Tables)</td>
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<tr>
<td>Week 9</td>
<td></td>
<td>Decision Tree</td>
<td></td>
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<tr>
<td>Week 10</td>
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<td>LOGIT</td>
<td>Decision Tree Assignment Due 28 - Oct</td>
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<tr>
<td>Week 11</td>
<td></td>
<td>Association Rule Mining</td>
<td>LOGIT Assignment Due 4 - Nov</td>
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<tr>
<td>Week 12</td>
<td></td>
<td>SAS Enterprise Miner Lab Class</td>
<td>Association Rule Mining Assignment Due 11 - Nov</td>
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<td></td>
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<td>Association Rule Mining</td>
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<td></td>
<td></td>
<td>SAS Demo on Association Rule Mining</td>
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<tr>
<td>Week 13</td>
<td></td>
<td>Clustering</td>
<td>Clustering &amp; Clustering in SAS Assignment Due 25 - Nov</td>
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<tr>
<td>Week 14</td>
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<td>Neural Networks</td>
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<tr>
<td>Week 15</td>
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<td>Exam II</td>
<td>Exam II (Everything covered after Exam I)</td>
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<tr>
<td></td>
<td></td>
<td>(Everything covered after Exam I)</td>
<td>SAS Assignment (Association Rule Mining) 2 - Dec</td>
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<tr>
<td>Week 16</td>
<td></td>
<td>Optional Comprehensive Final</td>
<td>Optional Comprehensive Final (Entire course Material)</td>
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Grading: We are planning to use Canvas to help with the course and grading

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<tbody>
<tr>
<td>Exams (Total 7 excluding SAS project)</td>
<td>575</td>
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<tr>
<td>Assignments</td>
<td>300</td>
</tr>
<tr>
<td>SAS Predictive Modeling</td>
<td>80</td>
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<tr>
<td>SAS Association Rule Mining</td>
<td>20</td>
</tr>
<tr>
<td>Class Participation</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>1000</td>
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Grades will be posted on Canvas after each exam or assignment is graded. Access to your grades will be through Canvas.

**Final grades will be based on the following scale:** A >899, B-800-899, C-700-799, D-600-699, F <600. In addition, students are expected to receive an average of 65% in the three exams in order to receive a grade of C or better.

Assignments:

*Problem Solving Assignments*
These assignments will involve the use of concepts discussed and taught in class. **Assignments must be submitted through Canvas; submission of electronic copies by e-mail or disk is not acceptable.** Your NAME and ID should appear on the top of each page that you submit. All assignments should be completed on time and submitted on Canvas before the submission deadline as shown on Canvas. Assignments submitted after the deadline will be considered late. **No late submissions will be accepted on these assignments.**

*SAS - Assignments*
These assignments will be submitted on Canvas on the due date. These assignments will involve the use of SAS Enterprise Guide and Enterprise Miner Software. We will be using **SAS Enterprise Miner** for this class. Detailed instructions that are required to complete these assignments will be made available to the students. These are NOT group assignments. A penalty of **20% of the assignment value per day** (including weekends) is assessed on late assignments beginning on the day due.

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.

*Lab Sessions:*
Lab sessions will be conducted during class hours for some of the topics posted in canvas. We will be using SAS 9.4 and SAS Enterprise miner for Regression, Clustering and the projects. Instructions and demos required for the class will be available to the students. **For each lab session, students are required to bring their own laptops.**

Questions on Exams:
Questions on the Exams will be taken from the assigned readings of texts, class lectures and assignments. If the answer to a Exam question is disputed, the student should submit a written appeal, citing the source (text page) to the instructor. The instructor will take these appeals into account during grading.
Missed Exams

If an Exam is missed, a **COMPREHENSIVE** Exam covering all material for the course will be given during the final exam week. **Please note that you are allowed to miss one and only one exam**, which can be compensate by taking the comprehensive final. For students missing more than one exam, the comprehensive will count towards one exam only.

**THERE WILL BE NO MAKE-UP EXAM FOR A MISSED COMPREHENSIVE EXAM**

The Internet:

You will need a **49er express account** to access Canvas. To get your 49er express account (if you don’t already have one) contact the information technology services. If you already have a 49er express account, check and make sure that it works correctly.

Working Together:

You may work together when learning how to use computers and applications. Canvas has a message board and you are encouraged to use the bulletin board for clarification or questions that can be answered by the instructor or other students. Each student, however, is expected to do the assignments on their own. **Copying the computer files of some other student amounts to scholastic dishonesty** (see below) and will be subject to disciplinary actions that could result in a failing grade or expulsion from the University.

Attendance

**Regular attendance is necessary for doing well in this course.** You are expected to attend punctually all scheduled sessions and are responsible for completing the work from all of the class meetings. Attendance will be taken at random during the semester and will be counted towards class participation points. You are responsible for any material covered, announcements made, assignments passed out, and any other type of work you may miss during any absence from class. The quizzes, mid-term exams and final exam may contain material that is not in the slides or handouts but was covered in the class.

**Tardiness or early departure is disruptive and is, of course, strongly discouraged.**

Class behavior

Inappropriate behavior in class distracts from the ability of others to profit from their in-class experience. Such inappropriate behavior includes arriving late, leaving early, talking, surfing the net during the class, and so on. Rude and inappropriate behavior **will not be tolerated**. Since it is my responsibility to provide an environment that is conducive to learning for everyone in the class, I will deduct points from the grade of any student who chooses to repeatedly distract others. In particularly egregious cases, I will have the student permanently removed from the class.

Under no circumstances will students be permitted to spend their class time working on assignments for other classes, checking e-mail, surfing the Web, or printing out homework. **Attempts to engage in such behavior will be reflected in lower grades and may lead to removal from the course.**

Electronic Devices in Class

Use of cellular phones, pagers, CD players, radios, and similar devices are prohibited in the
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classroom and laboratory facilities. Cellular phones MUST BE TURNED OFF DURING CLASS and students are strongly discouraged from checking their cell-phone messages when the class is in progress. Pagers must be set to vibrate, rather than beep. Use of instant messaging, email or other communication technologies during class time is prohibited. You may use a laptop to take notes during the class, but this should be done without distracting other students and without distracting you from the topic of discussion. Calculators and computers are prohibited during examinations and quizzes, unless specifically allowed by the instructor. I will take very seriously any complaints from fellow students who are distracted by non-class related use of electronic devices by any student.

Students violating these policies will be marked for disruptive behavior and may be asked to leave the class. Their grade will also be affected according to the rules of class participation points (pages 2 and 3 of this document).

**Accommodation for Disabilities**

In compliance with the Americans with Disabilities Act (ADA), all qualified students enrolled in this course are entitled to “reasonable accommodations.” Please notify the instructor during the first week of class of any accommodations needed for the course.

**Academic integrity**

As a program that helps to create business and government leaders, the College of Business has an obligation to ensure academic integrity is of the highest standards. Standards of academic integrity will be enforced in this course.

University regulations will be strictly enforced in all cases of academic irregularities, cheating or plagiarism or any variations thereof. Students assume full responsibility for the content and integrity of the academic work they submit. The guiding principle of academic integrity shall be that a student's submitted work, examinations, reports, and projects must be that of the student's own work.

All UNCC students have the responsibility to be familiar with and to observe the requirements of The UNCC Code of Student Academic Integrity (see the Catalog). This code forbids cheating, fabrication or falsification of information, multiple submission of academic work, plagiarism of written materials and software projects, abuse of academic materials (such as Library books on reserve), and complicity in academic dishonesty (helping others to violate the code). Additional examples of violation of the Code include:

- Representing the work of others as your own.

For this class, it is permissible to assist classmates in general discussions of computing techniques. General advice and interactions are encouraged. Each person, however, must develop his or her own solutions to the assigned homework and laboratory exercises. Students may not "work together" on graded 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. If you need help on an assignment, contact your instructor or the TA, not other classmates.

Any further specific requirements or permission regarding academic integrity in this course will be stated by the instructor, and are also binding on the students in this course.
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Students who violate the code can be punished to the extent of being permanently expelled from UNCC and having this fact recorded on their official transcripts. The normal penalty 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." If you are unclear about whether a particular situation may constitute an honor code violation, you should meet with the instructor to discuss the situation.

If you do not have a copy of the code, you can obtain one from the Dean of Students Office.

Students are expected to report cases of academic dishonesty they become aware of to the course instructor who is responsible for dealing with them.

Feel free to discuss the definition of cheating and/or plagiarism with me if you are unclear on these terms or have questions about the acceptability of a particular type of action.

Introduction to Canvas:
Canvas is a software tool for the use of instructors, teaching assistants (TA) and students. It is accessible from the Internet both on and off campus and has the following features:

1. Syllabus: A current copy of the course syllabus.
2. Files: Notes provided from the textbook vendor and the instructor.
3. Announcements: Instructor/TA can communicate with students about course activities and post interesting course-related topics
4. Discussions: Students can post any course-related queries here.
5. Grades: You can access your grades here. If you have questions about your grades, communicate through Canvas mail with the instructor. Check the bulletin board to see if there is a message to the class about the posting of grades.
6. Assignments: Assignments will be posted here and can be downloaded to your PC. Each assignment will have a deadline. This is the latest time the assignment can be submitted without penalty. You can upload your assignment file many times and submit it many times before the given deadline. After the deadline, your assignment will be frozen and you will not be able to change your assignment (if it is turned in before the deadline). If you submit your assignment after the deadline it will be considered late. Once your assignment is graded, comments on your assignment will appear along with your grade on Canvas.

Diversity Statement

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.