INFO 3236 (090, Y01, Y02) Fall 2020

Business Analytics

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Important Information & Policies for Fall semester

**Niner Nation Cares:** All students must follow the updates and instructions related to Fall semester reopening posted on [http://ninernationcares.uncc.edu](http://ninernationcares.uncc.edu) and [https://ninernationcares.uncc.edu/students](https://ninernationcares.uncc.edu/students). For your own health and safety and that of your friends and families, make sure to adhere to the health and safety guidelines posted on the above links. Please do not treat these guidelines lightly.

**Face coverings in classrooms and labs:** It is the policy of UNC Charlotte for the Fall 2020 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.

**Absenteeism during Covid-19:** 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.

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, please notify your instructor immediately and seek instructions to help you continue to make progress in the course.
specific instructions for this situation will be provided on a case-by-case basis. The final decision for approval of all absences and missed work is determined by the instructor.

**Remote sessions:** The classes from September 7 until October 1 will be held online. You must join the class online via the zoom links posted on Canvas for the classes during the above period.

**Laptop requirement:** All upper-level business students, which includes all students in this class, are required to have their own personal laptop computer. The policy and the minimum system requirements are found at the link https://belkcollege.uncc.edu/laptop-policy. In particular, students in INFO 3221 must have working webcam and microphone in their laptop.

**Student Support:** The details of student support resources available are provided at following links.

**Academic support:** https://ninernationcares.uncc.edu/students/academic-support.

**Health support:** https://ninernationcares.uncc.edu/health-support-services
Instructor and Class Information

**Instructor:** Dr. Benyawarath “Yaa” Nithithanatchinnapat

**Office:** 347 Friday

**Office Phone:** 704.687.1988

**Email:** bnithith@uncc.edu

(This is the preferred mode of communication. Please allow up to 24 hours turn-around time for questions during the workweek.)

**Office Hours:** via Zoom, by appointment

**Class Hours:**

100% face-face

- Section 090: 5:30 pm - 8:15 pm Monday

Hybrid section

- Section Y01: 4:00 pm - 5:15 pm Monday (in-person); 4:00 pm - 5:15 pm Wednesday (online)
- Section Y02: 4:00 pm - 5:15 pm Monday (online); 4:00 pm - 5:15 pm Wednesday (in-person)
- Note: during the first 3 weeks, in-person meeting will be Zoom meeting and online is self-study

**Class Period:** Sep 7, 2020 – Dec 15, 2020

**Venue:**

- First 3 weeks: 100% online
- Week 4 onward: Friday 339

**Syllabus Overview**

- This syllabus contains the policies and expectations for this course. Please read the entire syllabus carefully. The standards and requirements set forth in this syllabus may be modified at any time by the instructor.
- Notice of such changes will be by an email, an announcement in Canvas, or by changes to this syllabus posted on the course Canvas website.

**Catalog Description**

**INFO 3236. Business Analytics.** (3) Prerequisites: Junior or Senior standing; and MIS, OSCM, Economics, or Marketing major or minor in good standing; or permission of department. This course covers various data mining and business intelligence methods, such as rule-based systems, decision trees, and logistic regression. In addition, this course covers query and reporting, online analytical processing (OLAP) and statistical analysis as well as issues relating to modeling, storing, securing, and sharing the organizational data resources.

**Learning objectives**

“Business analytics” refers to the extensive use of data, statistical and quantitative analysis,
explanatory and predictive models, and fact-based management to drive decisions and actions (Davenport and Harris, 2007, Competing on Analytics: The New Science of Winning). This class will provide the conceptual foundations of business analytics and an overview of select analytics techniques and software tools.

The specific learning objectives are as follows:

1. To develop an understanding of business intelligence, analytics and decision support.
2. To understand the principles of data management for analytics.
3. To understand different data mining and analytics tools and techniques (e.g., decision trees, logistic regression, cluster analysis, etc.) for solving business problems.
4. To understand how to effectively use visual analytics tools to present analytics results to a business audience.
5. To understand the ethical and privacy issues when practicing business analytics.

Course Materials & Software

1. **Reading Materials:** There is no required textbook for this class. All reading materials will be posted or linked on Canvas class page. These materials include handouts, notes, power-point slides, practice problem sets, and web links to articles for class discussions. 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.

2. **Software:** This class will use SAS Enterprise Guide, SAS Enterprise Miner Workstation, and Tableau Desktop. MS Excel will be used occasionally but it is not the focus of this class. SAS, Tableau, and MS Office are available in the labs 280 and 339 in Friday building. During the online delivery mode, UNCC Apporto will be used for labs.

Grading

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Points</th>
<th>Submission</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Exams @ 250 points</td>
<td>500</td>
<td>Individual</td>
</tr>
<tr>
<td>4 Homework @ 50 points</td>
<td>200</td>
<td>Individual</td>
</tr>
<tr>
<td>2 Quizzes @ 30 points</td>
<td>60</td>
<td>Individual</td>
</tr>
<tr>
<td>Group Project</td>
<td>150</td>
<td>Group</td>
</tr>
<tr>
<td>In-Class Topic Presentation</td>
<td>40</td>
<td>Group</td>
</tr>
<tr>
<td>Attendance / Participation (AP)</td>
<td>50</td>
<td>Individual</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

Exams

There are two exams of equal weight. All exams are open-book and the submission type is individual. Collaboration between or among students are prohibited and students must follow UNCC’s Code of Student Academic Integrity ([https://legal.uncc.edu/policies/up-407](https://legal.uncc.edu/policies/up-407)).

The exams include multiple-choice questions, short-answer, essay-type questions and problem solving with analytics software and will be administered in the computer lab, unless there is a change at the university level about class formats.
All exam grades will be posted on Canvas. The instructor will keep all exams after grading. However, exam reviews are available during office hours or by appointment. Students requesting a review of their exams should do so within 3 days of the posting of the exam grades.

Homework
There are four individual homework. The instructions and datasets will be posted in Canvas. Each homework might require different software depending on the topic. Below is the brief detail of each homework.

- HW 1. Data preparation and data management using SAS Enterprise Guide and some other Office program
- HW 2. Logistic regression and decision tree using SAS Enterprise Miner
- HW 3. Segmentation and Association Analysis
- HW 4. Data Visualization using Tableau Desktop

Quiz
There are two individual open-book online quizzes. Question types may include multiple-choice, multiple-answer, true/false, fill in the blank, or short-answer.

Group Project
The instructor will provide data sets and the students will be working in team to analyze the data as instructed. More detail will be provided in a separate document. The students will be graded on written submissions and presentation.

In-Class Topic Presentation
Students will work in a small group setting with teammates who are interested in researching the same industry. In brief, each group will pick an industry and research about analytics in the selected industry. More detail will be posted in Canvas.

Attendance & Participation
Attendance and participation will be graded in various forms, such as Zoom attendance report, Zoom poll, before- or after-class pop quiz. Students can miss up to 30% of the opportunities and still be able to receive a full 50 points toward the final grade.

Grading Scale
The final letter grade will be calculated based on the following scale:

A: 900 points and above; B: 800-899; C: 700-799; D: 600-699; F: Below 600.

Note: Depending on the grade average and class distribution, curving or extra-credit may be available if necessary.

Other Class Policies
Make-Up Exams
Make-up exams will not be given except in cases of serious medical emergencies, as evidenced by a written doctor's excuse. Permission must be obtained from the professor prior to the scheduled exam time. Students missing an exam with an approved excuse will be allowed to make up the exam with the professor's approval during the final exam period. There will be no make-up for the comprehensive final.
Exams are a form of intellectual property belonging to those who create them (your professors). This means that exams may not be distributed to other students outside this class. Doing so will be considered theft of intellectual property. Such action will result in an exam grade of zero and may warrant further disciplinary action.

**Extra Credits**
Extra-credit opportunities, if any, will be the instructor's decision and such opportunities will be presented to the whole class instead of individual students only. Regardless, no extra-credit opportunities will be given after December 1, 2020.

**Due Dates Policy**
In practice, if you miss the deadline in delivering a project to your client, there's normally a penalty fee. Same here, late homework will be accepted within a specified grace period but with a penalty fee (25% will be deducted from what you earn). After a certain period, your clients will not accept your product/service because they must move on and find something else. That is why, after a grace period (i.e., after the key is posted), you will not be able to submit the late work and will receive a zero for that assignment. If you know you will miss class, make arrangements to turn in your work ahead of time. Due to the timeframe of this course, please keep in mind that the grace period will be very small, typically one day. As soon as I post the key, I will no longer be accepting work.

**Grade Appeals Policy**
If you believe that the grade you received on an assignment or an exam was in error or unfair, you can appeal to the professor in writing within seven calendar days after the grades are posted. 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.

**Class Behavior Policy for Online Class**
It is expected that students will behave professionally online, only using appreciate words for the context and keeping discussions civil.

**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 his/her 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 and also http://integrity.uncc.edu/). 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.
- Using or obtaining unauthorized assistance in any academic work.
• Giving unauthorized assistance to other students.
• Modifying, without instructor approval, an examination, paper, record, or report for the purpose of obtaining additional credit.
• Misrepresenting the content of submitted work.

For this course, it is permissible to assist classmates in general discussions about the homework. General advice and interaction 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 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. 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 me to discuss the situation. Feel free to discuss the definition of cheating or plagiarism with me if you are unclear on these terms or have questions about the acceptability of a particular type of action.

Disability Accommodations
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. If you have a disability that qualifies you for academic accommodations, please provide a letter of accommodation from the Office of Disability Services. For more information regarding accommodations, please contact the Office of Disability Services at 704.687.4355 or stop by their office in 230 Fretwell.

Diversity
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.

Incomplete Grade Policy
Receiving a grade of incomplete ("I") 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 only 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 case, for a student to receive an 'I' grade, the student's work to date should be passing, he/she must have completed a significant portion of the course, and the student must provide proper written proof (e.g., a doctor's note) of the extenuating circumstances.
Religious Accommodation for Students Policy
The instructor will observe University Policy 409 (https://legal.uncc.edu/policies/up-409) on matters of religious accommodation. Please note that the procedure prescribed by this policy requires a notice to the instructor prior to the census date of the semester (typically the tenth day of instruction).

Course Changes Policy
The instructor reserves the right to make any necessary changes to the course content, schedule, and policies. Changes will be announced in class and will also be posted online.
## Tentative Class Schedule

<table>
<thead>
<tr>
<th>Week #</th>
<th>Topics</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 9/7-9/11</td>
<td>Course Overview and Intro to Business Analytics (Zoom meeting)</td>
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</tr>
<tr>
<td>2 9/14-9/18</td>
<td>Fundamental statistical concepts (Zoom meeting)</td>
<td></td>
</tr>
<tr>
<td>4 9/28-10/2</td>
<td>9/28-9/29: Move-in dates, No classes Decision Tree</td>
<td>HW-1 (50)</td>
</tr>
<tr>
<td>5 10/5-10/9</td>
<td>Decision Tree</td>
<td></td>
</tr>
<tr>
<td>6 10/12-10/16</td>
<td>Logistic Regression</td>
<td>HW-2 (50)</td>
</tr>
<tr>
<td>7 10/19-10/23</td>
<td>Logistic Regression</td>
<td>Quiz-1 (30)</td>
</tr>
<tr>
<td>8 10/26-10/30</td>
<td>Midterm Exam</td>
<td>Midterm Exam (250)</td>
</tr>
<tr>
<td>9 11/2-11/6</td>
<td>Segmentation and Association Analysis</td>
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<tr>
<td>10 11/9-11/13</td>
<td>Segmentation and Association Analysis</td>
<td>In-Class Topic Presentation (40)</td>
</tr>
<tr>
<td>Week #</td>
<td>Topics</td>
<td>Assignments</td>
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<tr>
<td>11</td>
<td>11/16-11/20 Data Visualization</td>
<td>HW-3 (50)</td>
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<tr>
<td>12</td>
<td>11/23-11/27 Data Visualization</td>
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<tr>
<td>13</td>
<td>11/30-12/4 Recommender systems</td>
<td>HW-4 (50)</td>
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<tr>
<td>14</td>
<td>12/7-12/11 Open Lap for Group Project</td>
<td>Quiz-2 (30)</td>
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<td>15</td>
<td>12/14-12/18 12/14 Group Project Presentation</td>
<td>Group Project (150)</td>
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<td>12/15 Last day of classes</td>
<td>Final Exam (250)</td>
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<td>12/17-12/23 Final Examinations Mon:</td>
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<td>16</td>
<td>12/21-12/25 12/17-12/23 Final Examinations</td>
<td>Final grades due by 8 AM</td>
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<tr>
<td>1/5/2021</td>
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