MBAD/DSBA 6276: Consumer Analytics
[Hybrid Method]
(Sections U01 & U90)

Semester: Fall 2020
Time & Room: Section U01 Thu 11:30-2:15pm @ Center City 801
          Section U90 Thu  5:30-8:15pm @ Center City 801
Course Website: Canvas (canvas.uncc.edu)
Instructor: Professor Sangkil Moon (belkcollegeofbusiness.uncc.edu/smoon13)
Office: Friday Building 252B
Office Hours: Zoom by appointment
    (If you intend to talk to the instructor in person, in most cases, the best
time would be right before or right after each face-to-face class session.)
E-mail: smoon13@uncc.edu

[Course Description]
This course is aimed at developing and utilizing quantitative decision models to establish and implement consumer-related strategies and tactics. Ever-changing marketplaces and the related business environment are making an impact on the structure of business practitioners’ tasks. Especially, in the Big Data era, marketing is so rapidly evolving that it is no longer based on its conceptual content alone. Even though many still see traditional marketing as an art, the new marketing increasingly looks like a science based on quantitative analytics. Apparently, practitioners need more than concepts to fully make use of rich data available to them.

This course is designed for students who have already acquired basic data analytics skills. Using quantitative consumer cases and related exercises, students will develop insights into practical marketing problems in various decision contexts. In other words, this course will introduce a variety of quantitative models to improve marketing decision making in such areas as market segmentation, market response models, and pricing.

This course will also help students learn how to use SAS as a comprehensive data analysis tool when they make strategic business decisions, skills that are in increasing demand in profit and non-profit organizations alike in the Big Data era. Therefore, it is hoped that the course can be valuable to students planning careers in marketing and data science.
[Course Objectives]
The pedagogical philosophy in this course embraces the principle of learning by doing. Most concepts that we cover have software (SAS) implementation and an exercise example whose solution can be achieved through empirical analysis. To master each major tool introduced in this course, students should go through the three stages of problem solving: (1) problem detection & formulation (F2F), (2) data collection, cleaning & analysis (online), and (3) result interpretation for value creation (F2F). This approach equally emphasizes each stage to prepare students for the emerging Artificial Intelligence (AI) era, when more of mechanical and standardized data analysis procedures will be gradually replaced by AI. In particular, the first and last stages are hard to replace even by AI. To master this three-stage problem solving process, students are expected to struggle at times. Notably, a major requirement is that students apply marketing/consumer analytics techniques to their group project to solve typical marketing/consumer problems of their own choice. The semester-long project is intended to train students for the three-stage process of problem solving.

[Course Requirements]
- You should have strong basic statistics knowledge (e.g., parameter estimation, regression, correlation).

[Course Reference]
You are not required to buy any textbook. All the class materials will be provided in Canvas. For those who want to go deeper in learning statistical skills, the following book is recommended as a reference:

[Required Face Coverings in the Classroom]
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.

[Policy on 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. Students are encouraged to work directly with their instructors regarding their absences. 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 the COVID-19 Reporting 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 the COVID-19 Reporting 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). Instructors will be notified of such absences. You are primarily responsible for catching up on missed materials caused by your absences. If you are absent from class as a result of a COVID-19 diagnosis or quarantine, I will help you continue to make progress in the course.

[Academic Integrity]
The UNC Charlotte Academic Integrity Policy will be followed. The student is responsible for reading and understanding the policy:

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. 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. Copies of the code can be obtained from the Dean of Students Office. Standards of academic integrity will be enforced in this course. Students are expected to report cases of academic dishonesty to the course instructor.

[Preventing Sexual Harassment in Web-Assisted Course]
All students are required to abide by the UNC Charlotte Sexual Harassment Policy and the policy on Responsible Use of University Computing and Electronic Communication Resources. 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.

[Belk College Of Business Statement of 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. Diversity is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.

[Disability]
UNC Charlotte is committed to access to education. If you have a disability and need academic accommodations, please provide a letter of accommodation from Disability Services early in the semester. For more information on accommodations, contact the Office of Disability Services at 704-687-0040 or visit their office at Fretwell 230.

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<tr>
<th>[Course Requirements]</th>
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<tr>
<td>Task</td>
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<tr>
<td>[1] Exercises (50%)</td>
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<tr>
<td>[2] Team Project (50%)</td>
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<td>Total (100%)</td>
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[1] Exercises
There will be five exercises throughout the semester as follows:
- Ex 1: SAS Basic Statistics
- Ex 2: Market Segmentation & MDS (multidimensional scaling)
- Ex 3: Linear Regression Basics for Restaurant Patronization
- Ex 4: Linear Regression Application for Airfare Analysis
- Ex 5: Logit Regression for Reference Pricing

- You are expected to use SAS for the exercises. Using the SAS program (www.sas.com) is a good way to acquire analytical skills. These exercises will be designed to familiarize you with this popular and powerful statistical software. The instructor will provide step-by-step instructions to help students learn how to use SAS primarily through SAS Enterprise Guide. Enterprise Guide provides a convenient user-friendly interface to make using SAS easier.
- You can access SAS on Apporto (uncc.apporto.com). To learn about the environment of Apporto, refer to spaces.uncc.edu/display/FAQ/Apporto. Alternatively, you can download SAS from software.uncc.edu and install it on your own computer.
- Although you are required to use SAS for these exercises, I will provide Python code for Ex 2, 3, 4 & 5. (Ex 1 is focused on learning the SAS program itself. So, I do not provide Python code for this exercise.) However, please be aware that I will not provide any assistance to the Python coding because this course is not about learning Python. In this sense, students can see the Python coding as supplementary materials.
[2] Team Project
The team project is a major requirement of this course. You need to make up a team who will jointly work on it. *Each team will be composed of roughly 5 members.* The objective of this task is to have students apply some marketing concepts and analytics techniques to the project. Your team wants to select an interesting project with practically important marketing/consumer problems. While a variety of projects are acceptable, I would encourage you to do the following. Develop a project plan to address specific marketing/consumer problems (e.g., consumer segmentation & targeting, social media-based promotion campaign, prospective new customer identification) for a select brand or organization. It is your responsibility to identify a suitable brand or organization and practically important marketing problems.

Importantly, you need to consider **data availability** for the project in selecting your research topic and determining research problems. One place to start with may be your employer. Other possibilities include online public data, particularly datasets available on kaggle.com. Although this **secondary data approach** using existing data seems to be easy, it has a couple of major weaknesses. First, almost always, you will find that some key information you optimistically expect to see is missing. Second, data cleaning for your analysis to achieve your research objectives can be time-consuming and technically challenging. Alternatively, you can develop your own survey to collect data customized to your case. This **primary data approach** requires you to invest a significant amount of time for survey design (refer to uncc.surveymaker.edu). However, once you have a good-quality survey, you can benefit tremendously from the customized data.

There are four important stages in this team project.

- First, you will have an opportunity to find your team members and explore potential topics for your team project. You want to determine your topic well ahead of your proposal presentation.
- Second, your team needs to present a proposal to the entire class. Be prepared to deal with questions and criticisms from your classmates and me. My formal feedback will be provided afterwards. What should be included in the proposal presentation will vary project to project. Generally, you want to determine what object (i.e., brand or organization) and topic (e.g., target market identification, social media campaign) you want to work on. You also need to describe your data and analysis models as much as possible. You should email an electronic file of your PowerPoint slides to me before your presentation. Your work will be graded based on content quality and presentation performance. All the members on the team should participate in the presentation to receive your team presentation points.
- Third, after conducting data analysis, your team will present the results to the entire class. Be prepared to deal with questions and criticisms from your classmates as in your earlier proposal presentation. Again, you should email an electronic file of your PowerPoint slides to the instructor before your presentation. All the members on the team should participate in the presentation to receive your team presentation points.
Lastly, based on the discussion during your final presentation, your team is expected to make significant changes with follow-up analyses before completing a final written report.

- More details on each stage will be provided as each stage approaches.
- At the end of the semester, you will be asked to evaluate each of your members’ contribution to the team project. You should be honest and impartial in your evaluations.

[Grade Breakdown]
The final course grade will be determined by your total score based on all the class activities above. Your course grade will be assigned according to the following breakdown. Once the course grades are released, requests without clear evidence for a change would be denied.

A (90.0% – 100.0%); B (80.0% – 89.9%); C (70.0% – 79.9%); U (0.0% – 69.9%)

- Keeping the deadline for each assignment is your responsibility as a student. A late submission will be accepted, but with at least 20% deduction of the total possible points. The deduction proportion will be at the instructor’s discretion and will normally increase as more time passes after the deadline.
[Tentative Course Schedule]
(Revised as of 8/28 because of the University’s in-person instruction delay decision)

- This is a loose and tentative schedule. The instructor reserves the right to change it according to course development and student progress.

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<tr>
<th>Week (Thu) (Thu)</th>
<th>Format</th>
<th>Topic</th>
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| Week 1 (9/10)    | Online | Course Overview & Organization  
SAS Basic Statistics [Ex 1] |
| Week 2 (9/17)    | Online | Market Segmentation & MDS [Ex 2] |
| Week 3 (9/24)    | Online | Market Response Models  
Linear Regression Basics for Restaurant Patronization (Preview)  
Project Team Makeup |
| Week 4 (10/1)    | Online | Linear Regression Basics for Restaurant Patronization [Ex 3] |
| Week 5 (10/8)    | F2F  | Linear Regression Basics for Restaurant Patronization (Review)  
Linear Regression Application for Airfare Analysis (Preview) |
| Week 6 (10/15)   | Online | Project Proposal (Team Prep) |
| Week 7 (10/22)   | F2F  | Project Proposal Presentations |
| Week 8 (10/29)   | Online | Linear Regression Application for Airfare Analysis (Operation) [Ex 4] |
| Week 9 (11/5)    | F2F  | Linear Regression Application for Airfare Analysis (Review)  
Logit Regression for Reference Pricing (Preview)  
Brand Choice Models |
| Week 10 (11/12)  | Online | Logit Regression for Reference Pricing (Operation) [Ex 5] |
| Week 11 (11/19)  | F2F  | Logit Regression for Reference Pricing (Review)  
Social Media & Text Mining & LIWC (Linguistic Inquiry & Word Count) |
| Week 12 (11/26)  |       | Happy Thanksgiving (No Class) |
| Week 13 (12/3)   | Online | Project Data Analysis Meetings* |
| Week 14 (12/10)  | F2F  | Final Project Presentations |
| Week 15 (12/17)  |       | Final Project Report Submission (by 12/17Thu 11pm)** |

Note: The online sessions will be asynchronous. In other words, students can study the course materials assigned for the week at their own pace.

* For the week for Project Data Analysis Meetings, I will meet with each project team remotely for one hour to discuss specific analysis for the team project. Specific meeting times will be determined shortly before the meetings. Because the number of project teams, some of these meetings will be outside our regular class time.

** This assignment will replace the final exam.