



MBAD/DSBA 6276: Consumer Analytics (CA)

Semester: Fall 2018

Time & Room: 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: Thu 4:00-5:00pm (Center City 801), Thu 8:15-9:00pm (Center City 801),
and by appointment

*(In most cases, the best time to talk to me would be right before and right after
each class.)*

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[Course Description]

This course relies on the science and art of developing and utilizing quantitative marketing decision models to plan, implement, and analyze consumer-related marketing strategies and tactics. Ever-changing marketplaces and the related business environment are making an impact on the structure and content of the marketing practitioner's tasks. 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 quantitative analytics by effectively combining art and science to solve marketing/consumer problems. Marketers need more than concepts to fully make use of various and rich data available to them.

This course is designed to help students move from qualitative marketing to quantitative marketing focusing on consumer-related problems. This course is also designed for students who have already acquired basic data analytics skills. Using quantitative marketing cases and related exercises tied to SAS, students will develop marketing plans in various decision contexts. Specifically, this course will introduce a variety of quantitative models to improve marketing decision making in such areas as market response models, market segmentation, and pricing. It will help students learn how to use SAS as a comprehensive data analysis tool when they make strategic and tactical marketing 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 business analytics.

[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 (problem detection and formulation, data analysis, and result interpretation) of problem solving. This approach equally emphasizes each stage to prepare students for the emerging Artificial Intelligence (AI) era, when a majority of mechanical and standardized data analyses will be eventually replaced 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 some basic statistics knowledge (e.g., parameter estimation, regression, correlation).**

[Optional Course References]

You are not required to buy any textbook. All the class materials will be provided through our Canvas course website. For those who want to go deeper in learning, the following books are recommended as reference books.

Hair, Joseph, F. Jr., William C. Black, Barry J. Babin, and Rolph E. Anderson (2010), *Multivariate Data Analysis*, 7th Edition, Prentice Hall. (An earlier edition of this book title is good, as well.)

Lilien, Gary L. and Arvind Rangaswamy (2004), *Marketing Engineering: Computer-Assisted Marketing Analysis and Planning*, Revised Second Edition, Trafford Publishing.

[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.

[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.

[Course Requirements]

| Task | Points |
|------------------------|---|
| [1] Exercises | 300 |
| [2] Team Project | 450 (= Proposal Presentation 50 + Final Presentation & Report 400) |
| [3] Comprehensive Exam | 250 |
| Total | 1000 |

[1] SAS Exercises

There will be multiple exercises throughout the semester. You are expected to do most of the exercise work in class. These exercises will be given roughly once every two or three weeks in the first half, but less often in the second half to allow students to spend more time on their team project toward the end of the semester. In each exercise, students are expected to solve specific marketing analytics problems relevant to corresponding lectures.

- Using the SAS program (www.sas.com) is a great way to acquire analytical skills.

These exercises will be designed to familiarize you with this popular and powerful statistical software. The instructor will provide hands-on sessions to help students learn how to use SAS primarily through the SAS Enterprise Guide (EG). The EG provides a convenient user-friendly interface to make using SAS easier.

- You can access SAS on Citrix (citrix.uncc.edu). Alternatively, you can download SAS from software.uncc.edu and install it on your own computer.

- *Keeping the deadline for each assignment is your responsibility as a student. At least 20% deduction of the total possible points will be applied to a late submission.*

[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, 6, or 7 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.surveymshare.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. (Please, no free-riders!)**

[3] Comprehensive Exam

There will be a *challenging* comprehensive in-class exam that covers all the materials discussed in this course. To prepare well for this crucial exam, you should actively participate in class activities. This exam is more than the SAS exercises. In other words, you should note that just getting a good grade on the SAS exercises is not good enough to do well in this exam. Ultimately, this exam will test your abilities to analyze typical marketing/consumer data and interpret analysis results independently without other people's help.

[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%); F (0.0% – 69.9%)

[Tentative Course Schedule]

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

| Week (Thu) | Topic |
|-----------------|--|
| Week 1 (8/23) | Course Overview; Course Intro & Big Data SAS on Citrix; SAS Operations for Basic Statistics |
| Week 2 (8/30) | Introduction (LR* Ch.1) Linear Regression (Basics) |
| Week 3 (9/6) | Market Response Models (LR Ch.2) Linear Regression for Market Response Models <i>Project Team Makeup</i> |
| Week 4 (9/13) | Linear Regression Techniques (including Dummy Coding) |
| Week 5 (9/20) | Logit Regression for Reference Price |
| Week 6 (9/27) | <i>Project Proposal Presentations</i> |
| Week 7 (10/4) | Cluster & Discriminant Analyses for Consumer Segmentation |
| Week 8 (10/11) | Perceptual Mapping for Product Positioning |
| Week 9 (10/18) | Linear Regression for Airfare Analysis (Self-Study Week Session**) |
| Week 10 (10/25) | Segmentation & Targeting (LR Ch.3) |
| Week 11 (11/1) | <i>Project Data Analysis Meetings</i> |
| Week 12 (11/8) | LIWC (Linguistic Inquiry & Word Count) Sports Analytics <i>Exam Review</i> |
| Week 13 (11/15) | <i>Pre-Final Project Presentations (Day 1)</i> |
| Week 14 (11/22) | <i>Happy Thanksgiving! (No Class)</i> |
| Week 15 (11/29) | <i>Pre-Final Project Presentations (Day 2)</i> |
| Week 16 (12/13) | Comprehensive Exam (5:00-7:30pm) |

* LR indicates the reference book by Lilien and Rangaswamy.

** This “Self-Study Week Session” can take place in another week depending on how this course progresses. The study material will be provided in Canvas.