

# Title: Digital Marketing Analytics

## Syllabus – Spring 2024

Instructor: Dr. Ming Chen

**Section: DSBA 6284-U90**

Class hours: **Thursday, 5:30 pm – 8:15pm** (Jan 10 – May 08, 2024)

**Where: Center City Room 602**

Office hours: Thursday 3:30-4:30pm, or by appointment (send via email)

Email: [mchen37@uncc.edu](mailto:mchen37@uncc.edu)

### Course Description and Objectives

This is a graduate course in Digital Marketing Analytics. With the technological advances and the increasing speed of data-generation in digital era, it is essential and imperative for managers to understand the capabilities and limitations of common analytical tools and gain managerial insights on the patterns and associations in business data in order to make informative decisions. This course is structured to offer the essential data-analysis knowledge, methodologies and hands-on experiences of analytical tools combined with the lectures, discussions and interactive communications to help students develop pragmatic problem-solving skills and learn to apply different tools in different decision-making settings. Key concepts will be learned from a variety of activities including lectures, class discussions of assigned cases, individual exercises and a team/group project. This is an intensive course, so students are expected to get fully prepared with assigned readings and participate in class discussions.

The covered analytical skills and methodologies include (not limited to):

- Descriptive analysis
- Data visualization in Excel
- Data mining and statistical methods:
  - Data summary and search trend analysis
  - Forecast new product sales
  - Market segmentation
  - Data visualization
  - Predictive analysis using Machine Learning method

### Course Materials

- **Optional+ Textbook:** “Marketing Analytics: Data-Driven Techniques with Microsoft Excel,” by Wayne L. Winston. Publisher: Wiley, ISBN: 978-1118373439
- **Case reading:** most cases covered in this class would be provided by the instructor and will be posted on Canvas before class
- **Lecture notes:** lecture notes for each session of the class will be posted after the class on Canvas. Additional press articles, assigned reading, links to video and other supplementary materials will also be available on the course portal.
- **Software:**

- Excel (Microsoft Office 2007 or newer)

## Recommended Course Materials

- **Recommended but not required reading materials:** As the digital social media landscape moves so fast, there is no required textbook for this course although the following books are recommended for students who are motivated of learning more details about the analytics methodologies:
  - Digital Analytics for Marketing. Marshall Sponder and Gohar Khan.
  - Microsoft Excel 2016 Data Analysis and Business Modeling. Wayne Winston.
  - The essential guide to marketing in a digital world. Rob Stokers

## Grading

The following table displays the components contributing the final grade and the corresponding percentage distribution.

Components	Score	Remarks
Participations & Attendances	5'	In-class
Homework Assignments (3)	3*15' = 45'	Take-home
Case Assignments (2)	2*5' = 10'	Take-home
Midterm exam (1)	15'	In-class
Final Exam (1)	15'	In-class
Group Project Presentation (1)	10'	In-class
<b>Total</b>	<b>100'</b>	

## Grading Breakdown

***Unlike previous semesters, there are no planned grading exceptions due to COVID-19***

***P/U option will NOT be available in the Spring 2024 semester***

The final course grade will be determined by your total score based on all class activities listed in the table above. There is no (+) and (-) for this course. Once the course grades are released, requests without clear evidence for a change would not be considered. Your course grade will be assigned according to the following groups:

A (90.0% - 100.0%); B (75.0% - 89.9%); C (60.0% - 74.9%); U (Unsatisfactory)

## Detailed Class Requirements

### ***Homework assignments (45')***

There will be three homework assignments during the course of the semester with each homework assignment worth 15'. The specifics about each assignment will be informed and explained by the instructor in class. These homework assignments seek to reinforce the concepts, theories and methods that are covered in the lectures and case discussions. In addition, some in-class exercises will be given to provide some hands-on experience on the analytical tools. Assignments can be submitted on time in class or electronically before the scheduled class starts.

### ***Case assignments (10')***

This course will cover two cases with each of being carefully selected to provide up-to-date material on the digital marketing analytics landscape. Some of the cases are data-intensive with the purpose of guiding students to learn associated analytical tools and techniques. All students are expected to read all the cases and think about the questions assigned by the instructor before the class. Students are encouraged to involve with the discussion in class and provide meaningful insight from the case study. There will be two case assignments and the main purpose of the case assignments is to evaluate students' understanding of the case background, the depth of the analysis covered in the case and the ability to generate managerial implications or solutions from the case. Each case assignment worth 5'.

### ***Midterm Exam (15') + Final Exam (15')***

There will be one midterm exam and one final exam in this course. The purpose of the exam is to assess your overall understanding of the concepts, analytical skills and technical competence. The midterm exam and the final exam worth 15'.

Should students be absent for the class and miss the midterm exam or the final exam, inform the instructor in writing (email) of any legitimate exam time conflicts **at least two weeks** before the exam date. **If the instructor does not receive any written notice before the exam, there will be no opportunities for make-up exam.** If students miss exam by emergent reasons, it is suggested to contact the instructor right away concerning missing an exam with supporting reasons. Students are responsible for contacting the instructor to make arrangement for the make-up exam if he/she misses the exam because of emergencies. The make-up exams will be only permitted as required by the University Policy and if the grounds for the application are genuine and unavoidable.

### ***Group project presentation (10' = 2' of peer evaluation + 8' of presentation grade)***

Groups will be formed voluntarily before the third week of the semester. Each group will consist of 4-5 students, depending on the full size of the class. Based on a real firm, the group project is expected to develop a strategy plan combined with analyses and results with the hope to solve one specific marketing issue for that company. More information about the assigned firms and the case project will be provided in class. Students will play a real-world role of marketing consultants to synthesize, conduct analysis, interpret and recommend a viable digital marketing strategy based on what you've learned in this course. Group project presentation, accounts for 10' of the final grade, consists two parts. One part is peer evaluation (2') and the second part is group presentation (8', will be the same for each group member). Every group member is expected to participate actively in all aspects of the group exercises. One group member's peer evaluation score will be determined by the average of all the other peer members' evaluations. Every group member will evaluate, at the end of the course, any other group members' performance on a 100-point scale. The rubric of the evaluation sheet will be posted.

## **Class Participation and Attendance**

Should students be absent for the class, inform the instructor in writing (email) of any legitimate class time / group presentation conflicts **at least one week** before the class date.

For clarification purpose, the following rules are the general guidance to determine the final scores of "Attendances":

- No class missed for non-medical or emergent reasons;

- A prior notification to the instructor is necessary if students have to arrive late or leave early; The following rules are the general guidance to determine the final scores of “Participations”;
- Students achieve full participation score by actively contributing to an in-class discussion, raise insightful questions related to a particular topic, and voluntarily answer questions either raised by the instructor or by peer students;
- Students who attend each class but not actively contribute to class discussions are expected to receive only 80% of the participation score at the end of the semester.

## **Late Submission Policy**

- In this course, for any of the deliverables (i.e. homework assignment, case assignment), the policy for late submission (late than the predetermined submission deadline) will be deduct half of the total points of that particular deliverable. The final deadline for all the deliverables is the last class.

## **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, but not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.

## **Non-discrimination in the classroom**

All students and the instructor are expected to engage with each other respectfully. Unwelcome conduct directed toward another person based upon that person’s actual or perceived race, actual or perceived gender, color, religion, age, national origin, ethnicity, disability, or veteran status, or for any other reason, may constitute a violation of University Policy 406, The Code of Student Responsibility. Any student suspected of engaging in such conduct will be referred to the Office of Student Conduct.

## **University Policies on Withdrawals**

Students are expected to complete all courses for which they are registered at the close of the add/drop period. If you are concerned about your ability to succeed in this course, it is important to make an appointment to speak with me as soon as possible. The University policy on withdrawal allows students only a limited number of opportunities available to withdraw from courses. It is important for you to understand the financial and academic consequences that may result from course withdrawal.

## University’s statement on Disability Accommodations

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.

### Tentative Schedule of Topics and Readings

(subjective to change due to the uncertainty of the pandemic)

No.	Date	Topic & Reminder <sup>1</sup>	Suggested Readings <sup>2</sup> & Assignment
1	1/11	Introduction and Course overview	Syllabus
2	1/18	<b>Topic:</b> Data Summary and Trend Analysis  <b>Hands-on Exercise:</b> Google Trends, Google Analytics	“Understanding Consumers’ Local Search Behaviors”, Google (2014)  Textbook: Chapter 1,2,3
3	1/25	<b>Topic:</b> Forecasting New Product Sales <b>Case1:</b> TruEarth Case (Part 1)  <b>Hands-on Exercise:</b> Pivot Table	TruEarth Case (will be posted on Canvas) Chapter 27  * Case Assignment 1 (out)
4	2/01	<b>Topic:</b> Forecasting New Product Sales <b>Case1:</b> TruEarth Case (Part 2)  <b>Hands-on Exercise:</b> Bass Model to Forecast New Product Sales	“Why Most Product Launches Fail?” Harper Case (will be posted on Canvas) Solver Handout  * Case Assignment 2(out) *Assignment1 out
5	2/08	<b>Topic:</b> Market Segmentation <b>Case2:</b> Harper Case  <b>Hands-on Exercise:</b> Bass Model to Forecast New Product Sales & Solver Maximization	Textbook: Chapter 23 ,26, 18  * Case Assignment 1 due
6	2/15	<b>Topic:</b> Identify Customers’ Needs (Part 1)  <b>Hand-on Exercise:</b> Predictive analytics using real retailer data	Textbook: Chapter 16
7	2/22	<b>Topic:</b> Identify Customers’ Needs (Part 2)	Textbook: Chapter 34, 35, 36

		<b>Hand-on Exercise:</b> Customer Segmentation and Cluster Analysis	Case Assignment 2 due *Assignment 1 due
8	2/29	<b>Midterm Exam</b> (in-person, open book and open notes, Cover session 2 ~ session 7)	In-class Time duration: (TBD)
	3/4 ~ 3/9	<b>Spring Recess - No Class</b>	
9	3/14	<b>Topic:</b> Targeting VIP Customers <b>Hand-on Exercise:</b> Predictive analytics	Textbook: Chapter 42, 43 *Assignment2 (out)
10	3/21	<b>Topic:</b> Product Design <b>Hands-on Exercise:</b> Lead Score Application	“Contagious: Why Things Catch on”, by Jonah Berger (2013)
11	3/28	<b>Topic:</b> Collaborative Filtering & Adstock Model <b>Hand-on Exercise:</b> Adstock model	“Social media are giving a voice to taste buds” “Online Chatter That Moves Markets”, WSJ (2012)
12	4/04	<b>Topic:</b> Advertising <b>Hand-on Exercise:</b> Adstock Model using Solver & Counterfactual analysis	*Assignment 2 due
13	4/11	<b>Topic:</b> Pricing Bundling <b>Hand-on Exercise:</b> Peloton Pricing	*Assignment 3 out
14	4/18	<b>Group Presentations and Feedback from CMO &amp; CEO</b> <b>(Guests: Kaycee Kalpin, CMO of Premier, Inc, Paggy Zhou, CEO of TodayTec. )</b>	• Presentation and Peer Evaluation due
15	4/25	<b>Final Exam Prep and Q &amp;A</b>	*Assignment 3 due
16	5/02	<b>Final Exam</b> (in-person, open book and open notes, Cover session 9 ~ session 14)	In-class (TBD, depends on UNCC final exam schedule)

1. Reminders are listed with \* in highlight.
2. Assigned readings will be posted one week before the session.
3. Please make sure to have an access to laptop/ computer for each hands-on exercise session.