

# MKTG 2602: Quantitative Analysis of Consumer Data

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**Office:** Hayden 225E

**Office Hours:** By Appointment Only  
(min 2 days advance notice)

**Class Room:** Forsyth Building 201

**Class Hours:** WF 11:45am - 1:25pm

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## 1 Course Description

Introduces the fundamental techniques of quantitative data analysis and visualization in the marketing context. Emphasizes real-world consumer data and applications using R. Offers students an opportunity to learn a wide variety of foundational data-driven inference methods and

progress to more advanced coursework delving into analyzing and understanding complex behavioral data. No previous experience in data analysis or programming required.

## 2 Required and Recommended Materials

Most of your material will come in the form of notes and weekly readings. These will be posted weekly on Canvas. No, I do not post them ahead of time. They are posted every Sunday, so keep an eye out for them!

You also will need the following software installed:

- R and RStudio

## 3 Course Format

The style and format of our course will be "flipped". What does this mean? This means that your class will not run as a traditional lecture-style course. Our course is structured into work that you must complete at home that you would otherwise normally complete in a traditional classroom. Likewise, any work that you would normally do at home is done in class. That is not to say that our course doesn't have a structure to it. On the contrary. Rather, it is assumed that our course is structured differently to maximize our ability to leverage technology and tackle interesting problems in the time we have.

## 4 General Course Policies

1. Please adhere to professional behavior in class.
2. If we hold any meeting via Zoom, I ask that you mute your microphone when attending the class in such a manner.
3. Any virtual sessions will be conducted on Zoom.
4. The most important announcements **will be made in person**. If you do not receive an important announcement, it is your responsibility to catch up on any missed assignments.
5. **Final course grades are final**. I do **not** round grades. No requested changes can or will be made once submitted. Directly after submission, the professor is usually unavailable for email inquiries for final grade for a minimum of two weeks after grade submission.
6. Accommodating students with special learning needs should reach out to me with proper documentation immediately following the first class session.
7. It is against university policy to cheat. Please read the Northeastern University Policy on Academic Integrity at <http://www.northeastern.edu/osccr/academichonesty.html>. Cheating entails working in groups on individual assignments, completing others examinations and assignments, having others complete your examinations and assignments, or more generally having someone else complete the course on your behalf. You are allowed to use ChatGPT, even copy and pasting directly.
8. Extra credit opportunity is **not** offered in this class unless otherwise explicitly states

9. **It is YOUR responsibility, not mine, to keep track of your grades.** Please book an appointment with me to meet during my office hours if you have any questions regarding your age.
10. All submissions in this course are digital and are to be submitted via Canvas unless otherwise instructed to do so. Please do not submit hard-copy versions of assignments or exams.

## 5 Task-Based Evaluation

My course is *task-driven*. This means that you will be evaluated based on tasks that you choose to take on (or not). I let you choose the tasks to complete, but in order to each a grade, you must show a reasonable attempt. If a task submission does not show an effort on your part to solve the problem, the specific task will not count. Tasks must be completed by deadlines. Otherwise, they will not count. No exceptions to this rule. Here are the type of tasks in this class that you can attempt:

- In Classwork Sessions
- At-Home Exercises
- Interesting Article Presentation

Before we discuss grades, let's get something really important explicitly stated: It is the policy of D'Amore-Mckim School of Business that the class GPA can be not be outside the range of 3.2 - 3.4.

To this end, you will be evaluated in a manner that will ensure this outcome. If you are highly questionable of the grading process, **please feel free to immediately withdraw from this course.**

You will be evaluated using a method of your choosing. I grade your work along two primary criteria: the quantity of ungraded work that was reasonably completed, and the quality of your work.

Therefore, for grades, I have a two-tier system. If a student would like to receive any letter grade within the range of C- to B+, they can choose this letter grade at the beginning of the semester under the promise of completing the minimum required effort for each assignment.

If a student by the end of the semester fails to complete what they promised to complete, the student possibly can drop to the grade that corresponds with the work that they did submit to me, plus a penalty of one whole letter grade for not providing certainty in your decision making to me.

Otherwise, if a student chooses at the start of the semester that they would like to attempt to a grade of A- or A, they **must compete against other students for the A or A-**. Your work will be graded on a relative scale, and you will be required to serve on a team in a leadership position for the entire semester.

At a bare minimum, in order to obtain an A- or an A, the student must first complete all of the work, with a reasonable degree of effort, corresponding to grades between C- to B+, inclusively. Failure to meet this threshold will result in a grade lower than A or A-, **with a penalty of one whole letter grade.**

Letter Grade	Requirements
A,A-	<ul style="list-style-type: none"> <li>• Serve in a leadership position on your team.</li> <li>• Complete all tasks at an effort that shows a sufficient realistic attempt at every task that is required for a grade of B+ and the final project.</li> </ul>
B+	<ul style="list-style-type: none"> <li>• Complete and Submit, on time, 8 In Class Sessions (In Person Attendance, Wellness Days Cannot Be Used on These)</li> <li>• Complete and Submit, on time, 8 At Home Exercises</li> <li>• Complete and Submit, on time, 1 Interesting Article Presentation on a team of two.</li> <li>• Actively participate in the class in an impactful way. I will subjectively determine the level of participation in the class that you provided.</li> </ul>
B	<ul style="list-style-type: none"> <li>• Complete and Submit, on time, 6 In Class Sessions (In Person Attendance, Wellness Days Cannot Be Used on These)</li> <li>• Complete and Submit, on time, 6 At Home Exercises</li> <li>• Actively participate in the class in an impactful way. I will subjectively determine the level of participation in the class that you provided.</li> </ul>
B-	<ul style="list-style-type: none"> <li>• Complete and Submit, on time, 6 In Class Sessions (In Person Attendance, Wellness Days Cannot Be Used on These)</li> <li>• Complete and Submit, on time, 6 At Home Exercises</li> </ul>
C+	<ul style="list-style-type: none"> <li>• Complete and Submit, on time, 6 In Class Sessions (In Person Attendance, Wellness Days Cannot Be Used on These)</li> <li>• Complete and Submit, on time, 3 At Home Exercises</li> </ul>
C	<ul style="list-style-type: none"> <li>• Complete and Submit, on time, 3 In Class Sessions (In Person Attendance, Wellness Days Cannot Be Used on These)</li> <li>• Complete and Submit, on time, 3 At Home Exercises.</li> </ul>
C-	<ul style="list-style-type: none"> <li>• Complete and Submit, on time, 1 In Class Sessions (In Person Attendance, Wellness Days Cannot Be Used on These)</li> <li>• Complete and Submit, on time, <del>4</del><sub>1</sub> At Home Exercises</li> </ul>

## 6 Interesting Article Presentation

For the first few moments of each class, we will have 2 - 4 individuals present for 10 minutes on an interesting article that they have found that relates to the given topic in marketing and analytics that will be discussed for that corresponding week. Every student is required to present on one interesting article. It will be a presentation, powerpoint style. Here is the structure of this portion of your grade:

1. First, you will look at the schedule of topics that you think you can present on. Select a topic that you think is interesting. Google some of the topics, or feel free to email any clarifications about the topics in our course, so that you may be better guided for your presentation.
2. Let me know the topic that you intend to present. There will be limited space for each topic and topic selections will be on a first come first serve basis. I will have a topic queue system in place so that those whom select topics of their choice will be assigned those topics. To keep everything fair, I will open up a topic selection survey, which will record responses by rank preference.
3. Research your topic. This in part will come from our lectures, but you should do your due diligence to identify the core portions of the topic that can be illustrated with contemporary events in marketing.
4. Research an article that discusses to some extent a marketing concept and an analytics concept that has been used together in practice. For example, you may have found an article that discussed that a large food distributing company this prior month had adopted the use of machine learning to analyze their food-event data so that they can understand the segments of their market over time as well as how those segments have changed (obviously, I would like you to use a different example than this). Articles that are permitted are highly restricted to only a handful of outlets. There are additional restrictions on the article as well:
  - (a) They MUST only be from Boston Globe, Boston Herald, New York Times, Wall Street Journal, or Financial Times. No other outlets are permitted, especially partisan outlets (Fox News, CNN, MSNBC, etc).
  - (b) It MUST be a news article, NOT an opinion article.
  - (c) It MUST be published within 3 months of your planned topic date.
  - (d) It MUST be related to some type or aspect of marketing. That is, something about the Product, Place, Promotion, Price, Segmentation, General Marketing Strategy, market dynamics and structure, consumer behavior, B2B Marketing, Global/International Marketing, etc...
  - (e) It MUST be related to analytics in some way. The trick to this is to identify an aspect of analytics (optimization, data, machine learning, visualization, etc...) that is being used in Marketing. The easiest way: did the company use some sort of data or mathematical/computer programming technique to solve the problem? If so, what was that?
5. All research articles must be approved by me prior to the design of your presentation.

6. After receiving approval from me on your article, you must create a presentation that addresses (as implicitly as possible please!) the following aspects:
- **Company Background** - What was the background on the company? What do they do? What do they make/what service do they provide? Wherein which industry do they compete?
  - **Marketing Problem Description** - What marketing problem did the company attempt to solve with analytics? Give sufficient background on this.
  - **Data Background** - How was data used by the company to solve the problem, or, what type of data could have been used to solve the problem?
  - **Analytical Methodology** - Which analytical methodologies were used or could be used by the company? How were they used or could they be used?

Again, please do not explicitly address these. When I say implicitly, I mean that your presentation should have a logical flow to it and should address the broad range of questions that come along with the checklist above, but I DO NOT want you to follow some standard format. I want this to be as creative as a process for you as possible. With this stated, you will be graded along the following (very broad) dimensions (think of this as more of a check list of broad rubric categories). I have more specific criteria that are NOT released to students. However, this should help you think about how to go about the presentation:

- Organization of Content and Presentation
- Creativity
- Communication
- Relevancy of Article to Topic
- Proper Data Concept Identification
- Proper Analytical Methodology Identification

## 7 24-Hour Communication Silence Period

You are free to email me at [m.garvey@northeastern.edu](mailto:m.garvey@northeastern.edu). You are also free to book an appointment with me to meet virtually via Zoom or physically in my office. Please note that any emails pertaining to an assignment that are sent to me within 24 hours of an assignment's due date **will be ignored**. For example, if you have an assignment due at 5:00pm on Thursday, the latest you can email me regarding the assignment is on Wednesday 5:00pm. Any emails after this will only be answered after the due date.

## 8 Recording Policy

Every single one of our in-class sessions are recorded. This is for the benefit of every student. At the beginning of each session, everyone must consent to recording. If you do not consent, you will be required to complete an additional assignment in order to show your participation in the class. The assignment will entail a minimum of a 2-page, double-spaced, 12pt write up of a summary of our lecture. If you do not consent, you agree to not participate in class and

agree to complete the additional assignment. If you are attending class virtually, please note that recordings on Zoom may show your name, picture, and voice. If you do not consent to recording, you agree to change your name to an unidentifiable one, to keep your camera and microphone turned off, and not to engage in the chat box. Active vocal, visual, or textual participation is assumed to be your implicit consent to recording. Put simply: consent to record if you would like to participate in class, do not consent and you will be required to complete an additional summary assignment for each class session.

## **9 A Note on Use of Software**

We will not accept any work in any other software other than R. Rest assured, you will be able to take the knowledge and skills curated and cultured in this course and apply it using other tools. However, the very basic expectation for this course is that you work within, and submit work within, R. There are no exceptions to this expectation.

## **10 Course Schedule\* and General Syllabus Changes**

\*Note that all topics are subject to change, as well as the schedule itself.

1. Introduction to analytics
2. Introduction to datasets
3. The process of data wrangling
4. Methods of exploration, explanation, and prediction
5. Methods of exposition
6. Special methods in quantitative marketing techniques