Georgia Tech
Scheller College of Business

MGT6332: Database Marketing and CRM

Fall 2025

Instructor: Dr. Nan Zhao
Class Time: Wednesdays 6:30 pm-9:15 pm, SOB 223
Office Hour: By Appointment
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Course Objective

In this digital age, customer data is everywhere and growing at a faster speed than ever before. Many firms have extensive data about consumers' choices and how they react to marketing campaigns, but few firms have the expertise to intelligently act on such information. In this course, students will learn the scientific approaches to analyze and act on customer information in each stage of the customer lifecycle to grow your business profitably and improve customer engagement. This course uses a combination of lectures, cases, and real-world databases that equip students with tools that can be used immediately on the job.

Prerequisites

An introductory statistics course is encouraged for this course. We will use R/RStudio to demonstrate class examples/exercises.

Course Structure

Customer Centric Marketing

- Introduction to CRM

Prospecting and Targeting the Right Customers

- Predicting Response with RFM Analysis
- Case Analysis: “Tuango: RFM Analysis for Mobile App Push Messaging”; Lift and Gains
- Predicting Response with Logistic Regression
- Case Analysis: “BookBinders: Predicting Response with Logistic Regression”

Developing Customers

- Quantifying Customer Lifetime Value
- Next-Product-to-Buy Models: Learning from Purchases
- Recommendation Systems: Learning from Ratings
- Case Analysis: “Pentathlon (Part II)”
- Case Analysis: “Home Alarm LTV”
- Case Analysis: “Pentathlon (Part III): Next-Product-to-Buy Modeling”

***** Subject to change. Version Aug 2025 *****

Retaining Customers

- Churn Forecasting
- Advanced Churn Forecasting
- Proactive Churn Management
- Case Analysis: “Blue Apron: Turning Around the Struggling Meal Kit Market Leader”
- Case Analysis: “S-Mobile: Churn Management”; From Prediction to Prescription

Distinguishing Good from Bad Analytics

- Testing and Experimentation
- Analyzing Experimental Data
- Causal Inference with Observational Data
- Identifying Customer Heterogeneity

CRM in Practice

- Industry Collaborations and Examples
- Career Q&A

Tentative Course Schedule and Assignment Due Dates

Date	Class #	Class Title	Assignments Assigned and Due dates
8/20	**1**	Introduction to CRM and course overview	
8/27	**2**	R basics for customer analytics	
8/27	**3**	Linear regression and its applications	
9/3	**4**	Predicting customer response with RFM analysis	***Individual Assignment: "Tuango RFM" Assigned***
9/3	**5**	Predicting customer response with logistic regression	
9/10	**6**	Case Analysis: "Tuango: RFM Analysis for Mobile App Push Messaging"; Lift and Gains	***Individual Assignment: "Tuango RFM" Due; Individual Assignment: "BookBinder Logistic" Assigned***
9/10	**7**	Quantifying Customer Value	
9/17	**8**	Next-Product-to-Buy Models: Learning from Purchases	
9/17	**9**	R demo on NPTB	
9/24	**10**	Case Analysis: "BookBinders: Predicting Response with Logistic Regression"	***Individual Assignment: "BookBinder Logistic" Due; Individual Assignment: "Pentathlon (Part II)" Assigned***
9/24	**11**	Recommendation systems: Learning from Ratings	
10/1	**12**	Churn forecasting	
10/1	**13**	Advanced churn forecasting	
10/8	**14**	Case Analysis: "Pentathlon (Part II): Testing for the Best Frequency"; In class exercise: "Home Alarm, Inc.: Assessing Customer Lifetime Value"	***Individual Assignment: "Pentathlon (Part II): Testing for the Best Frequency" Due*** Read the Home Alarm case and questions before class starts ***Group Assignment: "Pentathlon Part III" Assigned***
10/8	**15**	Case Discussion: "Blue Apron: Turning Around the Struggling Meal Kit Market Leader"	Read the Blue Apron case and questions before class starts
10/15	**16**	Proactive churn management	
10/15	**17**	In class exercise: "S-Mobile: Churn Management"; From Prediction to Prescription	Read the S-Mobile case and questions before class starts
10/22	**18**	Case discussion: S-Mobile	
10/22	**19**	Case Analysis: "Pentathlon (Part III): Next-Product-to-Buy Modeling"	***Group Assignment: "Pentathlon Part III" Due***
10/29	**20**	How to tell good from bad analytics	
10/29	**21**	Testing and experimentation	
11/5	**22**	How to analyze experimental data	***Final Group Project Assigned***
11/5	**23**	Establishing causality with observational data	
11/12	**24**	Understanding customer heterogeneity and measuring heterogenous treatment effects	

11/12	**25**	CRM in practice	
11/19	**26**	Final group presentation	***Slides due on Canvas, Final group presentation***
11/19	**27**	Final group presentation	***Final group presentation***
11/26	**28**	Holiday break, no class	
11/26	**29**	Holiday break, no class	

Grading and Class Policies

The grade in this course will be based on the following criteria with their associated weights. The syllabus details the grading weights associated with each exercise.

Individual case exercises	15% * 3
Group case exercise	20%
Final group presentation	20%
Class Participation and Peer Review	10% + 5%

Your final grade will be assigned as a letter grade according to the following scale:

A 90-100%

B 80-89%

C 70-79%

D 60-69%

F 0-59%

Assignments and late policy

Please pay close attention to the assignments' due dates listed in the course schedule. Assignments are due on Canvas before the start of each class. You should submit your case write-up and attach your R code. **Late assignments or assignments without R code will NOT be accepted.**

Attendance and class participation

Learning to articulate your analysis and to evaluate and respond to the analysis of others is an important part of what you will learn in this class. As a result, you should make every effort not to miss class. Quality contribution to class discussions will improve your participation grade**.** If you must miss a class, please notify me at least 24 hours in advance. You are responsible for reviewing the course materials and keeping up with any content covered so that you do not fall behind. Of course, you are always welcome to reach out to me with any questions you might have.

Individual and group exercises

Much of the learning during the course will happen with the help of individual and group case exercises. If an exercise is labeled an "individual exercise" you are NOT allowed to work with other students. The write-up should reflect your own work only. If an exercise is labeled a "group exercise" you should work on it in groups and only hand in one write-up per group. Groups should remain constant for all exercises and the final group project throughout the course. Please email me your group (2-3 people) before the 14th class (10/1).

Copyright

All course materials, including lecture slides, datasets, and case studies, are protected by copyright. These materials are provided solely for your personal learning and use within this course. You may not copy, share, post, or distribute

them in any form—digital or print—without explicit written permission from the instructor. Any unauthorized use or distribution is a violation of copyright law and university policy.

Academic honesty

I expect all students to follow the GT Honor Code. Specifically, representing someone else's work/code as your own, copying/collaborating on assignments without permission from the instructor, and engaging in any other forms of dishonesty that violate the spirit of the code, are considered academic violations and will be reported to the Student of Integrity.

Accommodations for students with disabilities

Reasonable accommodations will be made for students with verifiable disabilities.

If you require special accommodation, please contact the Office of Disability Services at (404)894-2563 or http://disabilityservices.gatech.edu/, to obtain an accommodations letter. **Please also contact me at the beginning of the course to discuss your learning needs.**

About cases

The case situations that will be discussed have been developed after careful research on actual situations in real companies. The case writer(s) has (have) attempted to describe enough of the background and details of the situation in order to provide an adequate basis for class discussion.

Each case is bound to lack some information that you would like to have in order to make a decision. As in real life, management decisions frequently must be made in the absence of information. A key executive skill is the ability to make effective decisions under uncertainty. A case discussion is preparation for just such situations.

Rarely, if ever, does a case contain an ideal solution to the problem highlighted in it. So do not expect a perfect all-encompassing solution at the end of the case discussion. In most cases, no such answer will emerge because each management problem often has multiple alternative solutions, each involving different degrees of risk, cost and complexity of execution. The major benefit of case discussion is that it provides the participants with a perspective and a repertoire of ideas which non-participants will lack. One case study participant once commented that "regular and active participation in case discussions helps you gain valuable experience even without being on the job." There is some truth in this statement. Another benefit of the case discussion is that concepts which may appear theoretical in a text book come to life when seen from the perspective of a case. This helps in internalizing class concepts and seeing how they can be applied.