Marketing Analytics

SECTION I: Course Overview

Course Code: MKT365PRG
Subject Area(s): Marketing, Data Analytics
Prerequisites: An introductory course in Marketing
Language of Instruction: English
Total Contact Hours: 45
Recommended Credits: 3

COURSE DESCRIPTION

This course will equip students with a thorough understanding of the tools and methods involved in marketing analytics. Marketing analytics is the systematic approach of gauging, controlling, and examining marketing performance to optimize return on investment (ROI) and its efficacy.

This course will show students the entire lifecycle of analytical data. Students will learn how to collect, interpret, and present data. After gaining a baseline understanding, students will learn how to develop a targeted marketing strategy, optimize marketing campaigns, and measure marketing effectiveness. Students will also be introduced to the latest marketing innovations, such as predictive modeling, machine learning, and artificial intelligence.

LEARNING OBJECTIVES

Upon successful completion of this course, you will be able to:

- Apply the principles of marketing analytics to make data-driven decisions
- Design field experiments in digital environments, including A/B testing and hypothesis testing
- Illustrate and visualize data to communicate marketing insights effectively

PREREQUISITES

Before enrollment, this course requires you to have completed an introductory course in marketing.

SECTION II: Instructor & Course Details

INSTRUCTOR DETAILS

Name: TBD

Contact Information: TBD
Term: SEMESTER

GRADING & ASSESSMENT

The instructor will assess your progress towards the above-listed learning objectives by using the forms of assessment below. Each of these assessments is weighted and will count towards your final grade. The following section (Assessment Overview) will provide further details for each.

Engagement	**20%**
Assignments (5)	**50%**
Capstone Project	**30%**

ASSESSMENT OVERVIEW

This section provides a brief description of each form of assessment listed above. Your course instructor will provide further details and instructions during class time.

Engagement (20%): Engagement in class is expected of all CEA CAPA students. Guidelines for engagement can be found on the list of academic policies.

Assignments (50%): There will be 5 mandatory assignments throughout the course that will account for 50% of the final grade (each assignment is worth 10% of the final grade). These assignments will require students to apply their knowledge of marketing analytics to real-world business problems and will be graded based on the following criteria:

- Content (50%): The quality and completeness of the analysis, including the use of appropriate data sources, analysis methods, and tools. The analysis should demonstrate a deep understanding of the problem and use sound logic and evidence to support recommendations.
- Creativity (20%): The originality and creativity of the recommendations, including the ability to identify unique solutions to complex problems.
- Writing and formatting (15%): The clarity, organization, and professionalism of the written report. This includes grammar, spelling, and formatting.
- Data visualization (10%): The use of appropriate data visualization techniques to effectively communicate insights and recommendations to stakeholders.
- Timeliness (5%): The submission of the assignment on time and in the correct format.

Marketing Analytics Capstone Project (30%): For the final project, students will work in groups of 3-4 to develop a comprehensive marketing analytics plan for a company of their choice. The project will require students to apply their knowledge of marketing analytics to a real-world business problem and present their findings to the class in a professional manner. The project will be divided into two milestones that will be submitted during the semester – the initial proposal due during Week #12 and the final presentation and report due at the end of the term.

Capstone Project Proposal: For the first deliverable of the capstone project, students are required to present a proposal for their marketing analytics project. The proposal should be submitted as a written report and a presentation. The written report should be no more than 10 pages, double-spaced, with 12-point font, and 1-inch margins. The presentation should be no more than 15 minutes long and include visual aids such as charts, graphs, and tables. The proposal should include the following:

- Design: A clear and concise description of the project's design and objectives. What marketing problem or opportunity will be addressed? What research questions will be answered? What is the scope of the project?
- Goals: Specific, measurable goals for the project. What metrics will be used to assess the success of the project? How will the project contribute to the business?
- Methodology: A detailed description of the research methodology. What data sources will be used? What data collection methods will be used? How will data be analyzed and visualized? What statistical techniques will be used?

- Data Sources: A comprehensive list of the data sources that will be used in the project. This could include internal and external data sources such as customer data, market data, social media data, website analytics data, etc.

Final Report and Presentation: Upon the group proposal being approved, students will then shift to complete their final presentation. The written report should be no more than 20 pages, double-spaced, with 12-point font, and 1-inch margins. The presentation should be no more than 30 minutes long and include visual aids such as charts, graphs, and tables. The final capstone presentation should include the following:

- Identification of the business problem: Students will choose a company and identify a specific business problem that can be addressed using marketing analytics. They will provide a brief overview of the company, its products/services, and target audience.
- Data collection and analysis: Students will collect data relevant to the group's business problem and use appropriate data analysis tools and techniques to analyze the data.
- Segmentation, targeting, and positioning (STP): Based on their analysis, students will identify different customer segments, target audiences, and positioning strategies that the company can adopt.
- Marketing mix strategy: Students will recommend a marketing mix strategy that includes product, price, promotion, and place elements, based on their STP analysis.
- Measurement and optimization: Students will recommend a measurement plan and optimization strategy for the marketing mix and use appropriate tools to measure and evaluate the effectiveness of the plan.
- Data visualization and storytelling: Students will develop a visually appealing and persuasive presentation that communicates their findings effectively to the class.
- The final project will be graded based on the quality of the analysis, the creativity of the recommendations, the rigor of the measurement plan and optimization strategy, and the effectiveness of the presentation. Each milestone will also be graded based on the completeness and quality of the work.

ACTIVE LEARNING

CEA CAPA courses are designed to include a variety of active learning component that will take you out of the classroom and allow you to explore your local, host city. This course includes:

- Field Study: visit to a local marketing company relevant to course content
- Guest speaker: A data analytics professional

REQUIRED READINGS

The reading assignments for this course are listed below. All required readings must be completed according to the due date assigned by the course instructor. You will not need to purchase these readings; the instructor will provide these selected readings to you in class (either in paper or electronic format) and/or through CEA CAPA's online Moodle classroom.

SELECTED READING(S): The selected readings for this course are listed below. You will not need to purchase these readings; the instructor will provide these selected readings to you in class (either in paper or electronic format).

- Grigsby, Mike. Marketing Analytics (2018): A practical guide to improving consumer insights using data techniques. Kogan Page. London and New York. Second Edition.

KEY RESOURCES

In order to ensure your success abroad, CEA CAPA has provided the academic resources listed below.

- **UNH Online Library**: As a CEA CAPA student, you will be given access to the online library of the University of New Haven (UNH). You may access the UNH online library here. You must comply with UNH

Policies regarding library usage.

- **CEA CAPA Classroom – Moodle**

COURSE CALENDAR *Marketing Analytics*			
SESSION	**TOPICS**	**ACTIVITY**	**READINGS & ASSIGNMENTS**
1	**Course Introduction:** Review Syllabus, Classroom Policies **Overview of Marketing Analytics** What is Marketing Analytics? How is it used in business? What tools and technologies are commonly used?	Course Overview **Discussion:** How marketing analytics can help optimize marketing campaigns. Real-world examples of companies that use marketing analytics to gain insights and drive business growth.	**Reading 1:** Course textbook Part 1: How can marketing analytics help you? • 02 Brief principles of consumer behavior and marketing strategy **Assignment 1:** Research and write a short paper on the importance of marketing analytics in today's business landscape, using examples of companies that have successfully used marketing analytics to improve their bottom line.
2	**Data collection and sources** Internal and external data sources for marketing analytics Advantages and disadvantages of different data sources Data collection methods and tools Ethics and Data Privacy	**In-class activity:** Hands-on exercises on web scraping and data collection **Discussion:** Ethics and privacy in marketing analytics	**Reading 2:** Course textbook Part 1: How can marketing analytics help you? • 03 What is an insight? **Assignment 2:** Research and evaluate different data sources for a specific marketing campaign and create a report that outlines the pros and cons of each source and how they could be used together. ***Assignment 1 Due**
3	**Data Preparation and Cleaning** Importance of ensuring data quality Data cleaning and validation techniques Data transformation and integration Missing data imputation Introduction to Python or Google Sheets for data preprocessing	**In-class activity:** A hands-on data preprocessing exercise. Dataset of customer transactions that needs to be cleaned and transformed into a format that can be analyzed. **Group discussion:** How does data quality impact business decisions?	**Reading 3:** Course textbook Part 1: How can marketing analytics help you? • 05 Who is most likely to buy and how do I target them? ***Assignment 2 Due**

4	**Data Visualization & Storytelling** The importance of data visualization in marketing analytics Key psychological aspects to build effective visualizations Different types of charts and graphs Tools for creating visualizations	**In-class groups activity:** Given a clean dataset, build two powerful visualizations for a marketing campaign using alternative approaches. **Discussion**: How data visualization can help communicate insights effectively	**Assignment 3:** Work in pairs to clean and validate a messy data set, using different techniques such as data transformation, integration, and missing data imputation. Create a data visualization project that tells a compelling story about a specific marketing topic or campaign, using a tool such as Tableau or Google Data Studio.
5	**Descriptive Analytics for Marketing** Descriptive statistics and measures of central tendency Segmentation analysis techniques Trend analysis and forecasting	**Guest speaker:** A professional Data Analyst or Data Engineer **Discussion**: How do companies use marketing analytics to boost their growth?	**Reading 4:** Course textbook Part 1: • 01 A brief statistics review. Course textbook Part 3: • 10 Segmentation: Tools and techniques
6	**Predictive Analytics for Marketing** Introduction to predictive modeling Regression analysis and classification techniques Model validation and evaluation	**In-class activity:** Build a regression model in Google Sheets for an e-commerce to test whether e-mail open rates relate to conversions **Round Table Discussion:** What makes data visualization compelling and effective? Sharing our results from assignment 3 on data visualization and storytelling	**Reading 5:** Course textbook Part 1: • 06 When are my customers most likely to buy? • 07 Panel Regression: how to use a cross-sectional time series ***Assignment 3 Due**
7	**Market Segmentation** Definition and importance of market segmentation Types of segmentation criteria Cluster analysis and factor analysis	**In-class activity:** Customer segmentation to identify different purchasing behaviors using cluster analysis **Capstone project session I:** Overview, goals and Q&A.	**Assignment 4**: In pairs, conduct a market segmentation analysis for a specific product or service, using cluster analysis or factor analysis, and present findings to the class.

8	**Field Visit to a data & marketing department of a real company**	**Discussion:** Main challenges and opportunities when integrating Marketing Analytics into the decision-making process.	
9	**Customer Lifetime Value (CLV)** Definition and importance of CLV Calculation of CLV Applications of CLV in marketing decision-making	**In-class group activity:** Calculate the CLV of a delivery app given a clean dataset on customers purchase trends **Discussion:** How can you build a career in Marketing Analytics?	**Reading 6:** Course textbook Part 4: More important topics for everyday marketing: • 09 What does my (customer) market look like? Modelling inter-relationship techniques ***Assignment 4 Due**
10	**Attribution & Marketing Mix Modeling** Definition and types of attribution & marketing mix models Multi-touch attribution and conversion path analysis Marketing mix modeling in marketing decision-making	**Discussion**: "Infrastructure, Big Data & Marketing Analytics"	**Reading 7**: Course textbook Part 4: More important topics for everyday marketing: • 12 Implementing Big Data and Big Data analytics
11	**Digital Experimentation I** Key statistical concepts in experimental design Designing and implementing A/B tests Interpreting and analyzing A/B test results	**In-class activity:** Design and implement an A/B test for a specific marketing campaign, using a tool such as Optimizely or Google Optimize, and analyze the results to draw insights	**Reading 8:** Course textbook Part 4: More important topics for everyday marketing: • 11 Statistical testing: How do I know what works?
12	**Digital Experimentation II** Definition and importance of A/B testing Designing and implementing A/B tests Interpreting and analyzing A/B test results	**Group presentations & discussion:** Capstone Project First Deliverable	***Capstone First Deliverable Due**
13	**Customer Churn Analysis** Definition and importance of customer churn Calculation and prediction of customer churn Strategies for reducing customer churn	**Discussion**: Why do customers churn? And how can we use marketing analytics to prevent it?	**Assignment 5:** Conduct a customer churn analysis for a specific company, using survival analysis or other techniques, and suggest strategies for reducing customer churn

14	**Social Media Analytics** Introduction to social media analytics Social media data sources and collection methods Analysis and interpretation of social media data	Capstone Project groups work and Q&A	***Assignment 5 due**
15	**Capstone project presentations & final discussion**	**Discussion:** Key takeaways and learnings from the course Future directions and trends in marketing analytics How to build a career in marketing analytics	**Reading 9:** Course textbook Part 5: • 13 The finale: What should you take away from this?

SECTION III: CEA CAPA Academic Policies

To see all CEA CAPA academic policies outlined, please follow the following links. Students are expected to review and understand all CEA CAPA student policies, including the academic policies outlined online. CEA CAPA reserves the right to change, update, revise, or amend existing policies and/or procedures at any time.

Class & Instructor Policies can be found here
General Academic Policies can be found here