



Marketing Analytics

SECTION I: Course Overview

Course Code: MKT365EZE

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

SECTION II: Instructor & Course Details

INSTRUCTOR DETAILS

Name: TBA
Contact Information: TBA
Term: SEMESTER

ATTENDANCE POLICY

This class will meet once weekly for 150 minutes each session. All students are expected to arrive on time and prepared for the day's class session. Class may meet for more sessions per week, to meet a total of 45 contact hours.

CEA enforces a mandatory attendance policy. You are therefore expected to attend all regularly scheduled class sessions, including any field trips, site visits, guest lectures, etc. that are assigned by the instructor. The table below shows the number of class sessions you may miss before receiving a grade penalty.

ALLOWED ABSENCES – SEMESTER		
Courses Meeting X day(s) Per Week	Allowed Absence(s)	Automatic Failing Grade at X th absence
Courses meeting 1 day(s) per week	1 Absence	4 th Absence

For every additional absence beyond the allowed number, your final course grade will drop down to the subsequent letter grade (ex: A+ to A). As a student, you should understand that the grade penalties will apply if you are marked absent due to tardiness or leaving class early. In the table below, you will find the grade penalty associated with each excessive absence up to and including automatic course failure.

ATTENDANCE DOCKING PENALTIES				
Absence	1 st	2 nd	3 rd	4 th
Penalty	No Penalty	0.5 Grade Docked	1 Grade Docked	Automatic Failure
HIGHEST POSSIBLE GRADE AFTER ATTENDANCE PENALTIES				
Grade	A+	A	A-	F

CEA does not distinguish between excused and unexcused absences. As such, no documentation is required for missing class. Similarly, excessive absences, and the grade penalty associated with each, will not be excused even if you are able to provide documentation that shows the absence was beyond your control. You should therefore only miss class when truly needed as illness or other unavoidable factors may force you to miss a class session later in the term.

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.

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- **Class Participation (15%)**
- **Assignments (5 assignments, each one will contribute 10%)**
- **Capstone Project (35%)**

The instructor will calculate your course grades using the CEA Grading Scale shown below. As a CEA student, you should understand that credit transfer decisions—including earned grades for courses taken abroad—are ultimately made by your home institution.

CEA GRADING SCALE			
Letter Grade	Numerical Grade	Percentage Range	Quality Points
A+	9.70 – 10.0	97.0 – 100%	4.00
A	9.40 – 9.69	94.0 – 96.9%	4.00
A-	9.00 – 9.39	90.0 – 93.9%	3.70
B+	8.70 – 8.99	87.0 – 89.9%	3.30
B	8.40 – 8.69	84.0 – 86.9%	3.00
B-	8.00 – 8.39	80.0 – 83.9%	2.70
C+	7.70 – 7.99	77.0 – 79.9%	2.30
C	7.40 – 7.69	74.0 – 76.9%	2.00
C-	7.00 – 7.39	70.0 – 73.9%	1.70
D	6.00 – 6.99	60.0 – 69.9%	1.00
F	0.00 – 5.99	0.00 – 59.9%	0.00
W	Withdrawal	N/A	0.00
INC	Incomplete	N/A	0.00

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.

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Class Participation (15%): Student participation is mandatory for all courses taken at a CEA Study Center. The instructor will use the rubric below when determining your participation grade. All students should understand that attendance and punctuality are expected and will not count positively toward the participation grade.

CLASS PARTICIPATION GRADING RUBRIC	
Student Participation Level	Grade
You make major & original contributions that spark discussion, offering critical comments clearly based on readings, research, & theoretical course topics.	A+ (10.0 – 9.70)
You make significant contributions that demonstrate insight as well as knowledge of required readings & independent research.	A/A- (9.69 – 9.00)
You participate voluntarily and make useful contributions that are usually based upon some reflection and familiarity with required readings.	B+/B (8.99 – 8.40)
You make voluntary but infrequent comments that generally reiterate the basic points of the required readings.	B-/C+ (8.39 – 7.70)
You make limited comments only when prompted and do not initiate debate or show a clear awareness of the importance of the readings.	C/C- (7.69 – 7.00)
You very rarely make comments and resist engagement with the subject. You are not prepared for class and/or discussion of course readings.	D (6.99 – 6.00)
You make irrelevant and tangential comments disruptive to class discussion. You are consistently unprepared for class and/or discussion of the course readings.	F (5.99 – 0.00)

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.

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Marketing Analytics Capstone Project (35%):

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.

REQUIRED READINGS

Reading assignments for this course will come from the required text(s) and/or the selected reading(s) listed below. All required readings—whether assigned from the text or assigned as a selected reading—must be completed according to the due date assigned by the course instructor.

Textbook for the course:

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

ADDITIONAL RESOURCES

In order to ensure your success abroad, CEA has provided the academic resources listed below. In addition to these resources, each CEA Study Center provides students with a physical library and study areas for group work. The Academic Affairs Office at each CEA Study Center also compiles a bank of detailed information regarding libraries, documentation centers, research institutes, and archival materials located in the host city.

- **UNH Online Library:** As a CEA student, you will be given access to the online library of CEA's School of Record, the University of New Haven (UNH). You can use this online library to access databases and additional resources while performing research abroad. You may access the UNH online library [here](#) or through your MyCEA Account. You must comply with UNH Policies regarding library usage.
- **CEAClassroom – Moodle:** CEA instructors use Moodle, an interactive virtual learning environment. This web-based platform provides you with constant and direct access to the course syllabus, daily schedule of class lectures and assignments, non-textbook required readings, and additional resources. Moodle includes the normal array of forums, up-loadable and downloadable databases, wikis, and related academic support designed for helping you achieve the learning objectives listed in this syllabus.

During the first week of class, CEA academic staff and/or faculty will help you navigate through the many functions and resources Moodle provides. While you may print a hard copy version of the syllabus, you should always check Moodle for the most up-to-date information regarding this course.

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The instructor will use Moodle to make announcements and updates to the course and/or syllabus. It is your responsibility to ensure that you have access to all Moodle materials and that you monitor Moodle on a daily basis in case there are any changes made to course assignments or scheduling. To access Moodle: Please log-in to your MyCEA account using your normal username and password. Click on the “While You’re Abroad Tab” and make sure you are under the “Academics” sub-menu. There you will see a link above your schedule that says “View Online Courses” select this link to be taken to your Moodle environment.

COURSE CALENDAR
Marketing Analysis

SESSION	TOPICS	ACTIVITY	READINGS & ASSIGNMENTS
1	<p style="text-align: center;">Course Introduction: Review Syllabus, Classroom Policies</p> <p style="text-align: center;">Overview of Marketing Analytics</p> <p style="text-align: center;">What is Marketing Analytics?</p> <p style="text-align: center;">How is it used in business?</p> <p style="text-align: center;">What tools and technologies are commonly used?</p>	<p style="text-align: center;">Course Overview</p> <p style="text-align: center;">Discussion: How marketing analytics can help optimize marketing campaigns.</p> <p style="text-align: center;">Real-world examples of companies that use marketing analytics to gain insights and drive business growth.</p>	<p>Reading 1: Course textbook Part 1: How can marketing analytics help you?</p> <ul style="list-style-type: none"> • 02 Brief principles of consumer behavior and marketing strategy <p>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.</p>
2	<p style="text-align: center;">Data collection and sources</p> <p style="text-align: center;">Internal and external data sources for marketing analytics</p> <p style="text-align: center;">Advantages and disadvantages of different data sources</p> <p style="text-align: center;">Data collection methods and tools</p> <p style="text-align: center;">Ethics and Data Privacy</p>	<p style="text-align: center;">In class activity: Hands-on exercises on web scraping and data collection</p> <p style="text-align: center;">Discussion: Ethics and privacy in marketing analytics</p>	<p>Reading 2: Course textbook Part 1: How can marketing analytics help you?</p> <ul style="list-style-type: none"> • 03 What is an insight? <p>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.</p> <p>*Assignment 1 Due</p>

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3	<p>Data Preparation and Cleaning</p> <p>Importance of ensuring data quality.</p> <p>Data cleaning and validation techniques</p> <p>Data transformation and integration</p> <p>Missing data imputation</p> <p>Introduction to Python or Google Sheets for data preprocessing.</p>	<p>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.</p> <p>Group discussion: How does data quality impact business decisions?</p>	<p>Reading 3: Course textbook Part 1: How can marketing analytics help you?</p> <ul style="list-style-type: none"> 05 Who is most likely to buy and how do I target them? <p>*Assignment 2 Due</p>
4	<p>Data Visualization & Storytelling</p> <p>The importance of data visualization in marketing analytics</p> <p>Key psychological aspects to build effective visualizations.</p> <p>Different types of charts and graphs</p> <p>Tools for creating visualizations</p>	<p>In class groups activity: Given a clean dataset, build two powerful visualizations for a marketing campaign using alternative approaches.</p> <p>Discussion: How data visualization can help communicate insights effectively</p>	<p>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.</p>
5	<p>Descriptive Analytics for Marketing</p> <p>Descriptive statistics and measures of central tendency</p> <p>Segmentation analysis techniques</p> <p>Trend analysis and forecasting</p>	<p>Guest speaker: A professional Data Analyst or Business Analyst (TBD)</p> <p>Discussion: How do companies use marketing analytics to boost their growth?</p>	<p>Reading 4: Course textbook Part 1:</p> <ul style="list-style-type: none"> 01 A brief statistics review. <p>Course textbook Part 3:</p> <ul style="list-style-type: none"> 10 Segmentation: Tools and techniques

6	<p>Predictive Analytics for Marketing</p> <p>Introduction to predictive modeling</p> <p>Regression analysis and classification techniques</p> <p>Model validation and evaluation</p>	<p>In class activity: Build a regression model in Google Sheets for an e-commerce to test whether e-mail open rates relate to conversions</p> <p>Round Table Discussion: What makes data visualization compelling and effective? Sharing our results from assignment 3 on data visualization and storytelling.</p>	<p>Reading 5: Course textbook Part 1:</p> <ul style="list-style-type: none"> • 06 When are my customers most likely to buy? • 07 Panel Regression: how to use a cross-sectional time series <p>*Assignment 3 Due</p>
7	<p>Market Segmentation</p> <p>Definition and importance of market segmentation</p> <p>Types of segmentation criteria</p> <p>Cluster analysis and factor analysis</p>	<p>In class activity: Customer segmentation to identify different purchasing behaviors using cluster analysis</p> <p>Capstone project session I: Overview, goals and Q&A.</p>	<p>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.</p>
8	<p>Visit the data & marketing department of a real company (TBD)</p>	<p>Discussion: Main challenges and opportunities when integrating Marketing Analytics into the decision-making process.</p>	
9	<p>Customer Lifetime Value (CLV)</p> <p>Definition and importance of CLV</p> <p>Calculation of CLV</p> <p>Applications of CLV in marketing decision-</p>	<p>In class groups activity: Calculate the CLV of a delivery app given a clean dataset on customers purchase trends</p> <p>Discussion:</p>	<p>Reading 6: Course textbook Part 4: More important topics for everyday marketing:</p> <ul style="list-style-type: none"> • 09 What does my (customer) market look like? Modelling inter-relationship techniques

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	making	How can you build a career in Marketing Analytics?	*Assignment 4 Due
10	<p>Attribution & Marketing Mix Modeling</p> <p>Definition and types of attribution & marketing mix models</p> <p>Multi-touch attribution and conversion path analysis</p> <p>Marketing mix modeling in marketing decision-making</p>	<p>Guest speaker II: A professional Data Engineer.</p> <p>Discussion: “Infrastructure, Big Data & Marketing Analytics”</p>	<p>Reading 7: Course textbook Part 4: More important topics for everyday marketing:</p> <ul style="list-style-type: none"> • 12 Implementing Big Data and Big Data analytics
11	<p>Digital Experimentation I</p> <p>Key statistical concepts in experimental design</p> <p>Designing and implementing A/B tests</p> <p>Interpreting and analyzing A/B test results</p>	<p>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.</p>	<p>Reading 8: Course textbook Part 4: More important topics for everyday marketing:</p> <ul style="list-style-type: none"> • 11 Statistical testing: How do I know what works?
12	<p>Digital Experimentation II</p> <p>Definition and importance of A/B testing</p> <p>Designing and implementing A/B tests</p> <p>Interpreting and analyzing A/B test results</p>	<p>Group presentations & discussion:</p> <p>Capstone Project First Deliverable</p>	*Capstone First Deliverable Due

13	<p style="text-align: center;">Customer Churn Analysis</p> <p>Definition and importance of customer churn</p> <p>Calculation and prediction of customer churn</p> <p>Strategies for reducing customer churn</p>	<p style="text-align: center;">Discussion:</p> <p>Why do customers churn? And how can we use marketing analytics to prevent it?</p>	<p>Assignment 5:</p> <p>Conduct a customer churn analysis for a specific company, using survival analysis or other techniques, and suggest strategies for reducing customer churn.</p>
14	<p style="text-align: center;">Social Media Analytics</p> <p>Introduction to social media analytics</p> <p>Social media data sources and collection methods</p> <p>Analysis and interpretation of social media data</p>	<p>Capstone Project groups work and Q&A</p>	<p>*Assignment 5 due.</p>
15	<p style="text-align: center;">Capstone project presentations & final discussion</p>	<p style="text-align: center;">Discussion:</p> <p>Key takeaways and learnings from the course</p> <p>Future directions and trends in marketing analytics</p> <p>How to build a career in marketing analytics</p>	<p>Reading 9:</p> <p>Course textbook Part 5:</p> <ul style="list-style-type: none"> • 13 The finale: What should you take away from this?

SECTION III: CEA Academic Policies

The policies listed in this section outline general expectations for CEA students. You should carefully review these policies to ensure success in your courses and during your time abroad. Furthermore, as a participant in the CEA program, you are expected to review and understand all CEA Student Policies, including the academic policies outlined on our website. CEA reserves the right to change, update, revise, or amend existing policies and/or procedures at any time. For the most up to date policies, please review the policies on our website.

Class & Instructor Policies can be found [here](#)

General Academic Policies can be found [here](#)