



# Business Analytics

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## COURSE DESCRIPTION

This course is a beginner-friendly guide to business analytics, designed to open your eyes to the importance of data in the business world. You will learn how technology can help make better business decisions using data. The course explores simple tools to better understand business, such as identifying which groups of customers to focus on (segmentation), how to reach them (targeting), where to position your business in the market, and how to keep customers happy and loyal. You will also learn how to analyze customer behavior and make smart decisions about products and pricing. Through easy-to-understand examples and real-life business situations, you will grasp the basic ideas and methods of business analytics, providing a solid foundation in how to use data in business.

**NOTE:** This course is designed for beginners, requiring no prior knowledge or experience in analytics to join and benefit. It welcomes all students who are eager to learn and explore the world of analytics from the ground up!

## READING COURSE MATERIALS

Students are required to register on the two websites provided below and purchase the course pack

- 1) Harvard Business Review: <https://hbsp.harvard.edu/import/1092556>
- 2) Enginius: See the instructions on the class site

## REQUIRED SOFTWARE: (free license for students)

**R:** R is a free software environment for statistical computing and graphics, and is widely used by both academia and industry: <https://www.r-project.org/index.html>

**RStudio** is a user friendly environment for R that has become popular. Each student should download these two programs: Please note: even if you already have them, please check for updates.

<https://www.rstudio.com/products/RStudio/#Desk>

**Tableau** is a commercial database visualization tool that supports many different ways to interact with the data. Tableau has given students free academic licenses so that you can install the software on your own computer: <https://www.tableau.com/academic/students>

## COURSE REQUIREMENTS AND GRADING

Students are responsible for all reading assignments, handouts, and lecture materials. Students who miss class are expected to make arrangements with fellow students for lecture material. SKKU regulations require students to attend at least 80% of all classes.

	Grading		Scale	
Participation	10%	90-100%	A	PASS
Individual Assignment	40%	87-89%	B+	PASS
▪ Visualizing business data	(20%)	84-86%	B	PASS
▪ Amazon case dashboard	(30%)	80-83%	B-	PASS
Group Case Analysis	50%	77-79%	C+	PASS
▪ Case 1: Mobile Games	(15%)	74-76%	C	PASS
▪ Case 2: Robinhood	(15%)	70-73%	C-	PASS
▪ Case 3: Group's independent project	(20%)	67-69%	D+	PASS
		60-66%	D	PASS
		59% or lower	F	FAIL

## **INDIVIDUAL ASSIGNMENTS (40%)**

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There will be multiple assignments throughout the semester. These assignments include all individual analytical exercises. You will be asked to solve specific business analytics problems relevant to corresponding lectures by using some statistical software tools (such as R or Tableau).

- **Visualizing Business Data:** In this assignment, you are tasked with critiquing and redesigning a data visualization report related to a specific business context. The goal is to improve the clarity, accuracy, and effectiveness of the data visualization to aid in business analytics and decision-making.
- **Amazon Case Dashboard:** In this assignment, you will conduct a competitive analysis of Amazon and its competitors, summarizing the findings in a dashboard format.

## **GROUP CASE ANALYSIS (30%)**

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We will analyze three cases over the semester. Groups will be randomly assigned to each case and will give a 15-minute presentation of their case analysis to the rest of the class. The rest of the groups will be responsible for preparing and facilitating a discussion that will deepen our understanding and uncover insights from the case study work. In preparation, group members should meet to process and analyze the reading, quantitatively work on the data, draw our key ideas and central questions, develop the discussion structure and topics, and collaboratively plan for a productive, engaging discussion of the work.

Importantly note that all groups have to analyze each case and, following the presentation, there will be an open discussion of the case by the entire class. I will post a short list of questions (3-5) to guide the case study readings and your analysis. All class members should review these questions to support full engagement in the presenting group's learning activities and discussion.

## **GROUP'S INDEPENDENT PROJECT (20%)**

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The objective of this group project is to allow you to apply your classroom knowledge practically to address relevant challenges in the marketing sphere. By emphasizing consumer sentiment and future trend forecasting, the project promotes a multidimensional approach to marketing analytics. Groups will explore feedback on specific marketing subjects, such as a new product or campaign, using descriptive analysis and sentiment analysis. They will also employ regression modeling techniques to predict future market dynamics based on these sentiments. In essence, this assignment aims to equip you with the skills needed to both comprehend the current consumer mood and anticipate upcoming market trends.

Groups will be tasked with using two distinct analytical models:

- **Descriptive Analysis:** This initial phase involves detailing the basic features of the data, giving you a clear picture of what the data tells you without making further interpretations.
- **Sentiment Analysis:** This qualitative approach will involve understanding the perceptions and feelings of consumers towards a chosen product, brand, or campaign.
- **Regression Analysis:** Post the sentiment analysis, you'll employ this quantitative model to forecast future market trends or potential consumer responses based on the sentiment data.

The goal is to demonstrate how a combination of three analytical approaches can provide richer insights and more accurate predictions in the marketing realm.

### **Peer Evaluations**

Team members will be evaluated using the peer evaluation form. Peer evaluations impact each individual's project grade. Each individual in the team is evaluated by all others using the attached, confidential form. The individual's average percentage contribution is the percent score that the individual will receive for the project. For example, if the individual receives an 80%, 85%, and 90% from his/her team members his/her average percentage score is 85%. Thus, if the project grade was 90 out of 100 points, that individual would receive a 76.5 (90 points \* 85%) for the project.

**PLEASE NOTE: THERE IS NO REASON FOR ONE OR TWO INDIVIDUALS TO CARRY A TEAM. THE TEAM IS EXPECTED TO BE A TEAM.**

### **CLASS PARTICIPATION (10%)**

The criteria to be considered in calculating the participation mark are:

- quality of contribution (e.g., relevance, contribution to understanding, critical analysis, clarity of contribution, originality, comparative insight, consistency of valuable contribution, facilitation of further discussion, evidence of learning in the subject)
  - contribution to group climate (e.g., not domineering/brevity, courtesy and tack)
  - attitude to learning (e.g., interest, attentiveness in class)
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## COURSE SCHEDULE

\* This schedule may be revised, if needed. Changes to the schedule will be announced in class.

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<b>WEEK I</b>	<b>TOPICS</b>	<b>ASSIGNMENTS</b>
7/01 Mon	Overview of Business Analytics	
7/02 Tue	Describing Data	
7/03 Wed	Intro R and Tableau	
7/04 Thu	Visual Analytics to Develop Dashboard	
<b>WEEK II: Forecasting</b>		
7/08 Mon	Model Building, Analysis, and Interpretation	
7/09 Tue	Regression Analysis	
7/10 Wed	Class Case Exercise (HBR Case: Amazon)	
7/11 Thu	Create Dashboard Report	Amazon Case Dashboard
<b>WEEK III: Forecasting + Sentiment Analysis</b>		
7/15 Mon	Enginius: Mobile Games	Mobile Games Case
7/16 Tue	Case Solution & Discussion	
7/17 Wed	Enginius: Robinhood	Robinhood Case
7/18 Thu	Case Solution & Discussion	
<b>WEEK IV</b>		
7/22 Mon	Group Project Work Session I	
7/23 Tue	Group Project Work Session II	
7/24 Wed	Group Project Presentation	