Sungkyunkwan University (SKKU) International Summer Semester (ISS) 2026

Business Analytics

Prof. Kacy Kim, Bryant University
Email: kkim2@bryant.edu

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 HBR website provided below and purchase the course pack

Harvard Business Review Case – Amazon: Facing Low Customer Satisfaction in Singapore
Enginius – Bunny Hop; Heineken Case

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		
Analytics Participation	10%	90-100%	A	PASS
Individual Assignment		87-89%	B+	PASS
▪ Data Exercises	40%	84-86%	B	PASS
Team Assignment		80-83%	B-	PASS
▪ Analytics Demo Day	15%	77-79%	C+	PASS
Group Assignments		74-76%	C	PASS
▪ Group Work 1: Case Analysis	15%	70-73%	C-	PASS
▪ Group Work 2: Final project	20%	67-69%	D+	PASS
		60-66%	D	PASS
		59% or lower	F	FAIL

INDIVIDUAL ASSIGNMENTS (40%)

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).

- Brief data exercise
- Dashboard Assignments

TEAM ASSIGNMENT – ANALYTICS DEMO DAY (15%)

In this mini demo, each team (2-3 students) will creatively apply AI, R, Excel, or Tableau to demonstrate a simple, hands-on trick that enhances business decision-making. Your goal is to teach your classmates a useful tip or technique in a way that's engaging, relevant, and easy to follow.

What to Cover:

- Choose a business-related question or task (e.g., how can I find the best time to post on Instagram? How do I identify high-value customers?)
- Use an AI or analytics tools (Chat GPT, Excel, Tableau, or R) to answer it or solve the task
- Teach the class your solution in a short, fun demo
- Engage the class in a hands-on activity related to your tip/trick

Format:

- Team Size: 2-3 students
- Demo Time: 10-15 minutes per team
- Slides optional, live demo encouraged
- Involve the class: quick hands-on activity or walkthrough
- Submit a one-page summary with:
    - Your question + tool used
    - Step-by-step tip or trick
    - Business relevance
    - Takeaway insight

Presentation Guidelines – Please Read Carefully

- Your demo session must be between 10 to 15 minutes, including setup and Q&A.
- Be mindful of time—you will be stopped at the 15-minute mark to stay on schedule.
- If you plan to use any files, links, or resources, make sure to share them with the class at least one day before your presentation.
- Design your demo to be hands-on, interactive, or participatory to engage your classmates.
- Focus on clarity, creativity, and making your insight relevant to business analytics.

Sample Topics:

- How to count unique customers by region in Excel - with help from ChatGPT
- How to segment email subscribers in R using k-means
- Tableau trick: using parameters to filter consumer segment by channel in real time
- Writing better business prompts in ChatGPT to analyze product reviews

Suggested Tools

- Excel: formulas, pivot tables, functions
- Tableau: calculated fields, filters, dashboards
- AI tools: prompt engineering, formulas, a new way to use and application of AI features
- R: visualization, clustering, regression, scraping

In-Class Activity Ideas

- Let classmates try your trick on a dataset (share a file)
- Ask them to write a prompt or predict an outcome

- Challenge them to spot a pattern in the data

Grading Criteria

- Class Peer Evaluation (40%)
- Helpfulness: Was the demo useful for understanding business applications?
- Clarity: Was it easy to follow?
- Engagement: Was the hands-on portion fun and relevant?

Prof. Kim's Evaluation (60%)

- Clarity: Was the concept clearly explained?
- Creativity: Did the group show originality or insight?
- Relevance: Was the demo tied to business analytics or consumer insights?
- Time Management: Was the entire demo completed within the allotted 10-15 minute window? (Note: Demo that exceed the time limit may be penalized)

GROUP CASE ANALYSIS (15%)

We will analyze two 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 FINAL PROJECT (20%)

The objective of this group project is to allow you to apply your classroom knowledge practically to address relevant challenges in the business sphere. By emphasizing business trends, consumer sentiment, and future trend forecasting, the project promotes a multidimensional approach to business analytics. Groups will explore feedback on specific business 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 business trends.

Groups will be tasked with using two distinct analytical models:

1. **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.
2. **Sentiment Analysis**: This qualitative approach will involve understanding the perceptions and feelings of consumers towards a chosen product, brand, or campaign.
3. **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 business realm.

<u>Deliverables:</u>

By integrating the Tableau dashboard directly into your presentation, you not only provide data-backed insights but also offer an interactive and dynamic viewing experience that is engaging and informative.

Tableau Dashboard/Storyboard: The Dashboard should encompass the following components.

- **Data Overview**: Visualize your raw data. This should present the sources of the data, the volume of sentiments, and relevant metrics you deem important.
- **Analysis Approach**: Detail and possibly visualize the methodology you employed for both sentiment and regression analysis. Discuss any algorithms, tools, or techniques you used.
- **Results and Findings**: Present the results from both your sentiment analysis and regression modeling. Highlight key patterns, sentiments, and projected trends.
- **Business Implications**: Conclude with how these findings can be utilized in a real-world business scenario. Suggest potential strategies or interventions based on the combined insights from your analyses.

Presentation in Class: Prepare a 15-20 minute presentation summarizing your findings

Content:

- **Introduction**: Briefly introduce the business subject you chose and why it's significant.
- **Dashboard Walkthrough**: Use the Tableau dashboard as the primary visual aid throughout the presentation. As you discuss each analytical approach, showcase relevant parts of the dashboard, zooming in on specific visuals, charts, or graphs that pertain to the point being discussed.
- **Analysis Showcase**: Walk the viewers through the three analytical models (descriptive, sentiment, regression). Use the dashboard's interactive features to highlight data trends, patterns, and forecasts. For instance, employ filters or parameter controls in Tableau to dynamically change the visuals as you explain different aspects.
- **Results & Insights**: Use storytelling techniques. Don't just display the data – narrate the story it tells. Highlight the main takeaways, using the dashboard visuals to support your narrative.
- **Business Implications**: Discuss actionable insights, again referring back to specific points on the dashboard to reinforce your suggestions.
- **Conclusion**: Summarize the main points discussed, and perhaps show a full view of the dashboard one last time, reinforcing its comprehensive nature.

Peer Evaluations

Team members will be evaluated using the peer evaluation form. These evaluations are to be submitted after the final project. 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 percentage 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 a 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)

COURSE SCHEDULE

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

WEEK I		**TOPICS**	**ANALYTICS DEMO**
	6/29 Mon	Overview of Business Analytics	
	6/30 Tue	Describing Data	
	7/01 Wed	Intro R and Tableau	Team 1
	7/02 Thu	Visual Analytics to Develop Dashboard	Team 2
WEEK II: Forecasting			
	7/06 Mon	Model Building, Analysis, and Interpretation	Team 3
	7/07 Tue	Regression Analysis	Team 4
	7/08 Wed	Visual Analytics: Dashboard	Team 5
	7/09 Thu	Group Case Analysis	
WEEK III: Forecasting + Sentiment Analysis			
	7/13 Mon	Analytics & Technology	
	7/14 Tue	Cluster Analysis	Team 6
	7/15 Wed	Group Case Analysis	Team 7
	7/16 Thu	Dashboard Practice	Team 8
WEEK IV			
	7/20 Mon	Group Project Work Session I	
	7/21 Tue	Group Project Work Session II	
	7/22 Wed	Group Project Presentation	