

# Statistics and Data Analysis

111-1 / GMBA7098 / 749 M1200

**Audience:** GMBA

**Lecturer:** Dr Jiun-Yu Yu 余峻瑜

**Office:** Room 1105, Building 2, CoM

**Office hour:** *by appointment*

**Time:** Tue. 19:00 – 21:45

**Venue:** 重光講堂, Building 1, CoM

**e-mail:** [jyyu@ntu.edu.tw](mailto:jyyu@ntu.edu.tw)

**Website:** NTU COOL: <https://cool.ntu.edu.tw/courses/18973>

**TA:**

## Introduction:

Statistics and data analysis are probably playing the most important roles in business analytics nowadays. With the ability to conduct scientific statistical studies and systematically analyze data, managers will be able to understand more about their customers, suppliers, competitors, and the business environment. The insights may then facilitate better decision making and help a company to attain competitive advantages. In this fundamental course in the Global MBA (GMBA) program, we will focus on the techniques for conducting basic statistical studies and data analysis. The hope is that students will be capable of doing scientific data analyses in their future GMBA courses and after graduations. Time will be spent on tools, applications, as well as theories. Statistical software will be taught and used throughout this course.

This is a required course offered in the GMBA program in National Taiwan University. The GMBA office does not allow non-GMBA students to take or audit this course.

## Course outline:

			<i>Reading</i>	<i>Exercise</i>
1	06-Sep-22	Statistics for Decision Making and Competitive Advantage	[K] 1, 2 / [F] 1	
2	13-Sep-22	Describing Your Data	[K] 3, 4 / [F] 2	
3	20-Sep-22	Sampling Distribution and Hypothesis Testing	[K] 10, 11 / [F] 3	#1
4	27-Sep-22	Comparing Two Populations	[K] 12, 13 / [F] 3	
5	04-Oct-22	<b>Case Study (1)</b>	[F] 8	
6	11-Oct-22	Simple Regression	[K] 16 / [F] 5	
7	18-Oct-22	Multiple Regression	[K] 17 / [F] 11	#2
8	25-Oct-22	Multiple Regression with Indicator Variables	[K] 18 / [F] 7	
9	01-Nov-22	<b>Midterm</b>		
10	08-Nov-22	<b>Case Study (2)</b>		
11	15-Nov-22	<b>Final Project Milestone</b>		
12	22-Nov-22	ANOVA and Experimental Data	[K] 14 / [F] 14	
13	29-Nov-22	Association between Two Categorical Variables	[K] 15 / [F] 13	
14	06-Dec-22	Statistical Thinking		#3
15	13-Dec-22	<b>Final Exam</b>		
16	20-Dec-22	<b>Final Project Presentation</b>		<b>Report</b>

**Grading policy:**

- Not dropping this course: 5%
- Participation: 10%
- Exercise problems: 15%
- Case studies: 20%
- Two exams: 25% (whichever higher counts for 15%)
- Final project: 25%

**Textbooks:**

1. [K] Keller, *Managerial Statistics*, Taiwan Edition, Cengage Learning, 2016.
2. [F] Fraser, *Business Statistics for Competitive Advantage with Excel 2019 and JMP*, Springer, 2019.

**Reference:**

1. Stine & Foster, *Statistics for Business – Decision Making and Analysis*, 2<sup>nd</sup> edition, Pearson, 2014.
2. Hoerl & Snee, *Statistical Thinking*, 2<sup>nd</sup> edition, Wiley, 2012.
3. Spiegelhalter, *The Art of Statistics: Learning from Data*, Pelican, 2019.

**Note:**

1. No late, no food, no mobile/cellular phone. THANK YOU.
2. Exercise problems, case studies, and final project report must be handed in by the HARD DEADLINE specified.  
Late work is NOT accepted.
3. Details about final project will be announced in due course.