



## Korea University International Summer Campus (KU ISC) 2023

*Embark on a unique summer*

June 27, 2023 ~ August 3, 2023

### ISC207B – Statistics

**Period 2, 10:50 AM to 12:30 PM (Korean Time)**

#### I . Instructor

Professor	:	Dr. Anurag Agarwal
E-mail	:	<a href="mailto:aagarwal@fgcu.edu">aagarwal@fgcu.edu</a>
Home Institution	:	Florida Gulf Coast University, Florida, USA
Class Time	:	Period 2 (10:50am ~ 12:30pm KST)Online through Zoom, through Blackboard.
Office	:	Online
Office Hours	:	By Appointment (Online through Zoom)

#### II. Textbook

Required Textbook	:	None
Recommended Additional Readings	:	Notes will be provided through Blackboard

#### III. Course Description and Objectives

In this course we will learn the fundamentals of Statistics, which is basically the science of collecting, summarizing, describing, analyzing and interpreting data. Data can be about any aspect of the real world that we want to study. Statistics is used to perform empirical research and to test various hypotheses about the world, in almost every discipline of study, whether it is the hard sciences or the social sciences or business.

The topics covered are:

- Descriptive Statistics (Types of Data, Frequency Distribution, Graphs, Measures of Central Tendency, Measures of Variability)
- Probability and Probability Distributions (Binomial, Poisson, Hypergeometric, Normal, t, Uniform, Chi-Square and F)
- Population and Sample and Sampling Distributions (Central Limit Theorem)
- Confidence Intervals of Means and Proportions
- Test of Hypotheses (Z-test, T-test, one-population, two populations, proportions)
- Correlation, Simple Regression, Multiple Regression Analysis
- Analysis of Variance (F Tests)
- Categorical Data Analysis (Chi-Square Tests)

## IV. Grading

**Ethical Behavior Requirement:** Cheating, plagiarism, or any form of academic dishonesty will be penalized with an F grade. Also, students must attend all classes, exhibit good behavior and attitude.

**Attendance Policy:** This is a synchronous online class. Your attendance will be recorded automatically. Students are expected to attend every class meeting. Also, students are expected to login on time. Korea University requires a minimum attendance of 70%. If you are absent more than 70% of the time, you will lose points.

**Exams:** There will be two in-class exams (a midterm and a final). The final exam will be cumulative.

**Quizzes:** There will be five quizzes, each worth 15 points. There will be no makeup quizzes. The lowest quiz score will be dropped. If you miss a quiz, that quiz will be considered a dropped quiz.

**Assignments:** There will be 5 assignments worth 60 points.

Assignments	:	60
Quizzes	:	60
Midterm Exam	:	30
Final Exam	:	40
Attendance, Behaviour and Attitude	:	10
Total	:	200
A+ @190, A @ 180, B+ @ 170, B @ 160, C+ @ 150, C @ 140, D+ @ 130, D @ 120, F @ below 120		

To receive full credit on Attendance, Behavior and Attitude, student should attend at least 70% of classes, show good behavior, such as being polite and courteous in all interactions. Interactions in this course will be all online. So, during class, if students are speaking, they should speak politely and courteously, if they are typing something in the chat window, the language should not be offensive. Outside of class, if students are interacting through email, the language should be polite, courteous and respectful.

## V . Class Outline

Day	Date	Topic	Chapter	Assign/ Quizzes/ Exams	Remarks
Tue	June 27	Orientation Day (No Classes)			
Wed	June 28	Data and Descriptive Statistics	1		Online
Thu	June 29	Data and Descriptive Statistics	1		Online
Fri	June 30	Probability	2		Online
Mon	July 3	Probability	2	Assign-1	Online
Tue	July 4	Probability Distributions	3	Quiz-1	Online
Wed	July 5	Probability Distributions	3		Online
Thu	July 6	Sampling Distributions and Central Limit Theorem	4		Online
Mon	July 10	Confidence Intervals of Mean and Proportions	4		
Tue	July 11	Hypothesis Testing	5	Assign-2	Online
Wed	July 12	Hypothesis Testing	5	Quiz-2	Online
Thu	July 13	Hypothesis Testing	5		Online
Mon	July 17	Hypothesis Testing	5		Online
Tue	July 18	Analysis of Variance	6	Assign-3	Online
Wed	July 19	Analysis of Variance	6	Quiz-3	Online
Thu	July 20	Categorical Data Analysis	7		Online
Mon	July 24	Categorical Data Analysis	7	Midterm	Online
Tue	July 25	Correlation and Simple Regression Analysis	8	Assign-4	Online
Wed	July 26	Correlation and Simple Regression Analysis	8	Quiz-4	Online
Thu	July 27	Multiple Regression Analysis	9		Online
Mon	Jul 31	Multiple Regression Analysis	9	Assign-5	Online
Tue	Aug 1	Review		Quiz-5	Online
Wed	Aug 2	Final Exam		Final	Online
Thu	Aug 3	Graduation (Available both Online/Offline)			