

Syllabus/ Course Outline Stat-101/Math-107

This template has been made in keeping with the HEC and FCCU policies

Course Name: Statistical Methods Spring-2023		
Course Code: Stat-101/Math-107	Course Type: Elective	Course Credits: 3
Class Timings: 8:00-9:15 Tue,Thr	Section: D	Office Hours: Tue,Thr 10:00-12:00 noon.
Instructor Name: Samia Ayub		
<p>A Note from the Instructor:</p> <p>Students are required to apply themselves diligently to the course of study and to prepare class and homework assignments as given. Lecture slides/Reading Material will be uploaded on Moodle. Class tests and quizzes will be announced in the class. The assignments and Project will have to be completed on time. Regularity and punctuality in the class is essential. All deadlines will be announced in classes.</p>		
<p>Course Description:</p> <p><i>Pre-requisites if any: None</i> <i>Mode of Instruction (Asynchronous/Synchronous): Face to Face</i> <i>Mode of peer-to-peer contact among students: WhatsApp Discussion Groups</i></p>		
<p>Technology Requirements:</p> <p><i>Technology Usage in the classroom.</i></p> <ul style="list-style-type: none"> • Students are required to have a computer/laptop and calculator. • During exams scientific calculator is mandatory and smartphones are not allowed. <p><i>Main Mode of Instruction: Lecture slides, reading material, assignment questions will be uploaded on Moodle</i></p>		
<p>Course Objectives/By the end of the course students will be able to:</p> <p>This course is intended to provide the student with an understanding of basic Statistical terminology and techniques. Upon the successful completion of the course the student should be able to translate information into data and handle large data sets. The students will learn how to summarize data into frequency distributions and how to apply various formulas of averages and dispersions. They can present data and explore the characteristics of distribution.</p>		
<p><u>Student Learning Outcomes:</u></p>		

At the end of the course the student will:

- 1) Identify the types of data and different scales of measurements.
- 2) Be able to make a frequency distribution and draw its graphs,
- 3) Explore the shape of distribution through graphs
- 4) Be able to calculate different measures of central tendency and dispersion.
- 5) Analyze data through moments, skewness and kurtosis and explore the characteristics of distribution.
- 6) Be able to understand the rules of counting and basics of probability.

Course contents, Learning Material & Activities Schedule

Week #	Topic/ Title	Instructional Material	Assessment
1.	Introduction to basic concepts and terminology. Scales of Measurement	PowerPoint Slides, worksheets, activities and Reading Material	
2.	Data collection, Frequency distribution (Qualitative and discrete data).		Quiz #1 (Data collection and frequency distribution)
3.	Frequency distribution for Continuous data		
4.	Graphical Presentation		Assignment #1 (Frequency distribution and graphical presentation)
5.	Introduction to Measures of Central tendency (Arithmetic mean and mode)		
6.	Median and quantiles with graphical presentation		Quiz #2: (Graphical presentation, arithmetic mean, median and mode)

7.	Geometric mean and Harmonic mean	PowerPoint Slides, worksheets, activities and Reading Material	
8.	Introduction to measures of dispersion Absolute and relative measures of dispersion. (Range, Quartile Deviation and their coefficients)		
MID TERM			
9.	Mean deviation and its coefficient (with mean and median)	PowerPoint Slides, worksheets, activities and Reading Material	
10.	Standard deviation /variance and coefficient of variation		Quiz #3 (Measures of dispersion)
11.	Moments: raw moments, moments about mean		
12.	Measures of skewness and Kurtosis		Assignment #2 (Measures of dispersion and moments)
13.	Rules of Counting		
14.	Introduction to probability, classical approach.		Quiz #4 (Rules of counting)
15.	Probability Practice		
16.	Final Project		
Final Exam			

Note:

- Assessments can be divided into formative and summative:
 - Formative:
 - Students will learn through readings material, lesson notes, group discussions, and lecture slides, etc.
 - Students will practice through worksheets, practice questions and activities etc.
 - Summative:
 - Performance will be assessed through quiz, case study, projects, etc.

Out-of-Class Study Required:

After completion of a topic exercise questions will be provided to the class to prepare for class and/or complete weekly homework. The “best practices” for maximizing their learning is to take notes and review whole work done at the weekend. At least two hours daily study required to pass this course.

Textbooks, Materials, Supplies, and other Resources

1. Larry J. Stephens, “Theory and Problems of Beginning Statistics” Schaum’s Outline Series, McGraw Hill.
2. Anderson, Sweeney and Williams, “Statistics for Business and Economics” 9e Thomson South- Western
3. Mason, Lind, and Marchal, “Statistical Techniques in Business and Economics” McGraw Hill, New York

Course Requirements:

Class Participation: Class attendance; participation in-class activities and discussions

Assignment 1: Data Collection techniques, tabulation, graphs and charts

Assignment 2: Measures of dispersion and correlation

Quiz 1 (marks 10): Variables, data types, data collection, classification & tabulation

Quiz 2 (marks 10): Measures of central tendency

Quiz 3 (marks 10): Measures of dispersion

Quiz 4 (marks 10): Correlation and Unweighted index numbers

Assigned Readings

Practice Worksheets/ questions and reading documents

Grading Legend

Below is the grading legend of FCCU (published in all catalogues and available on the FCCU website) as approved by the Academic Council.

Grades	Quality Points	Numerical Value	Meaning
A	4.00	93-100	Superior
A-	3.70	90-92	
B+	3.30	87-89	

B	3.00	83-86	Good
B-	2.70	80-82	
C+	2.30	77-79	Satisfactory
C	2.00	73-76	
C-	1.70	70-72	
D+	1.30	67-69	Passing
D	1.00	60-66	
F	0.00	59 or below	Failing
NS	0.00	0.00	Did not show up in class
W	-	-	Officially Withdrawn
AW	-	-	Administrative Withdrawal/Dismissal
AU	-	-	Audit/Listener Status
I	-	-	Incomplete
T	-	-	Transferred credit

The entire course is worth 100%, the breakup is as follows (for example):

Class Participation	5%
Assignments:	10%
Quizzes:	10%
Midterm exam:	25%
Final term exam:	40%
Final Project	10%
TOTAL	100%

Missed Assignments/Make-Ups/Extra Credit

- *NO delayed assignments. There will be 50% deduction of marks for late submission after due date.*
- *NO Make-up mid/final exam*
- *NO retake mid/final exam*

Attendance Policy:

If a student does not attend a minimum of 70% of total classes, he/she will not be permitted to take the final examination in the course.

Classroom Participation:

Students must participate in the classroom for class activities and may ask questions related to the lesson taught. Class participation is also included in your grade

Changes to the Syllabus:

This syllabus was designed to convey course information and requirements as accurately as possible. It is important to note however that it **may** be subject to change during the course depending on the needs of the class and other situational factors. Such changes would be for your benefit and you will be notified of them as soon as possible.

Student Support Services

- Students can contact the [Campus Counseling Center](#) at 0331-444-1518 or ccc@fccollege.edu.pk.
- [Writing Center](#)
- [Mercy Health Center](#)

Other Useful Links:

- [Sexual Harassment Policy](#)
- [Anti-Corruption Policy](#)
- [Academic integrity](#)
- [Plagiarism Policy](#)
- [Academic Calendar](#)

I expect that you will strictly follow the core values of FCCU and put your entire efforts to learn as per the course requirements, attend classes, read the textbook(s)/other assigned reading material and do the assignments in the stipulated time period