Course Name: **Statistical Methods**

Course Code: STAT 101/ MATH 107	**Course Type :** Elective	**Course Credits:** 3
Class Timings: 8:00 – 8:50 p.m. (MWF)	**Section:** A	**Online Office Hours (Zoom):** Monday to Friday- 11:00 to 11:50a.m.

Instructor Name: Dr. Iram Saleem

A Note from the Instructor:

- *Policy for in-class students*

- *Lectures will be delivered in class face to face*
- *Lecture and reading Material will be uploaded on Moodle*
- *Quizzes will be performed on Moodle during Class time. Dates will be announced in-class and on Moodle*
- *Assignments will be provided on Moodle and submissions are also required on Moodle. Assignment Feedbacks will be uploaded on Moodle.*

-Policy for online students

- *Recorded Lectures will be uploaded on Moodle*
- *Reading Material will be uploaded on Moodle*
- *Quizzes will be performed on Moodle during Class time. Dates will be announced on Moodle*
- *Assignments will be provided on Moodle and submissions are also required on Moodle. Assignment Feedbacks will be uploaded on Moodle.*

Instructor Contact Details

Email: iramsaleem@fccollege.edu.pk

Office Hours (online): Monday to Friday- 11:00 to 11:50a.m.

Zoom Meeting ID : 462 816 5805

Passcode: 12345

Guidelines for contacting instructor:

- Meet online
- If in-person make an appointment via email

Course Description:

Pre-requisites if any:

Mode of Instruction: Asynchronous/ Synchronous

Mode of peer-to-peer Contact Among Students: online discussion forums

Main Mode of Instruction: *Moodle, Zoom and MS Teams*

Technology Requirements:

- Students need to have a computer/ laptop/ smartphone/ calculator

Technology Etiquettes

- Students are recommended to log in at least 10 minutes before the start of the session to do the necessary checks, specifically for students

- Be sure to name yourself for your slot on the screen. It will make it easy to get a report of the students' attendance. If your slot carries a different name, to rename: click 3 dots near your video window OR in the participants' list, hover over your name, and click "rename" to make the change
- Please stay muted when not speaking.
- Please turn off your video during class.
- Be respectful of others' opinion
- If the session is recorded do not post isolated comments that may be taken out of context.

Considerations for Students with Limited Internet/Technology Access:

- Student with limited internet connections may send an email to instructor with their concern.

Course Objectives:

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 learn how to summarize and present data and use them to solve every day statistical problems.

Student Learning Outcomes:

At the end of the course the student will:

1) Identify the types of data and use appropriate methods to collect and summarize data.
2) Be able to make a frequency distribution and draw its graphs,
3) Distinguish between different scales of measurements.
4) Be able to calculate different measures of central tendency and dispersion.
5) Analyze data to find moments, skewness and kurtosis and interpret the results.
6) Be able to understand basics of probability.

Course Content, Learning Material & Activities Schedule

Wk	Topic/ Title	Teaching-Learning Activities		Assessment & Rubrics
		Synchronous (Simultaneously conducted) *Presentation / Lecture Live Video-Audio Small Group Discussion/ Breakout Rooms In-class quiz Q&A/ Live Chat*	**Asynchronous** (postal/ Moodle/ email) *Discussion blogs WhatsApp Readings Moodle Quizzes Assignment Submission Online Content/ Recordings Lecture notes/ Annotated PPT Experiential learning*	
		In-Person	Off-campus and offline	
1	Introduction to basic concepts and terminology.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentations	
	Measurement scales.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
2	Data collection, Frequency distribution (Continuous data).	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	

	Cont.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
3	Frequency distribution (Discrete data).	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	Quiz 1
	Cont.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
4	Charts and Graphs	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentations	Assignment 1
	Cont.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
5	Introduction to Measures of central tendency, Arithmetic mean and Mode	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
	Cont.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
6	Median and quantiles with graphical presentation	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	Quiz 2
	Cont.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
7	Geometric mean and Harmonic mean	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
	Cont.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	Assignment 2
8	Introduction to measures of dispersion.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
	Absolute and relative measures of dispersion. (Range and Quartile Deviation)	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	

	MIDTERMS if applicable			
9	Mean Deviation (with mean and median)	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
	Standard Deviation/ Variance	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
10	Moments, raw moments, moments about mean.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	Quiz 3
	Cont.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
11	Measures of skewness and kurtosis.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
	Cont.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	Assignment 3
12	Rules of Counting	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
	Cont.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
13	Introduction to probability, classical and relative frequency approach.	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	Quiz 4
	Probability Practice	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	
14	Probability Practice (Cont.)	In-class lecture	Moodle Quizzes, Readings, PowerPoint Presentation	Assignment 4
	Revision			
15	**CULMINATING PROJECT**			
16	**FINAL EXAM**			

'Out-of-class' Study Required (across all 3 categories of students -- those attending in-person, online, or asynchronously)

1. Quizzes will be online at the time of class
2. Students are expected to study 3 hours a week
3. If you have any questions please join online office hours
4. Assignment submissions will be on Moodle

Textbooks, Materials, Supplies and other Resources

1. Lind, D. A., Marchal, W. G., & Wathen, S. A. (2012). *Statistical techniques in business & economics*. New York, NY: McGraw-Hill/Irwin,
2. Anderson, D. R., Sweeney, D. J., Williams, T. A., Camm, J. D., & Cochran, J. J. (2016). *Statistics for business & economics*. Nelson Education
3. Prof. Sher Muhammad Ch. And Prof. Dr. Shahid Kamal, Introduction to Statistical Theory Part 1, Ilmi Kitab Khana.
4. Mann, P. S. (2007). *Introductory statistics*. John Wiley & Sons.
5. R.S.N. Pillai and Bavanthi, Statistics theory and Practice, 8th Edition.

Course Requirements:

Class Participation

Attendance and participation in discussions

Quiz 1 : (marks 10)

Topic: Introduction to basic concepts and terminology, Measurement Scale, Data collection and Frequency Distribution.

Quiz 2 : (marks 10)

Topic: Charts and Graphs, Measures of central tendency (arithmetic mean, median, mode and quantiles)

Quiz 3 :(marks 10)

Topic: Measures of Central tendency (geometric mean and harmonic mean), Measures of dispersion (range, quartile deviation and mean deviation)

Quiz 4: (marks 10)

Topic: Moments, Skewness, Kurtosis and Rules of Counting

Assignment 1: (marks 10)

Topic: Frequency distribution, Graphs, Measures of central tendency (Arithmetic mean).

Assignment 2 : (marks 10)

Topic: Measures of Central tendency

Assignment 3 : (marks 10)

Topic: Measures of dispersion, moments, skewness and kurtosis

Assignment 4: (marks 10)

Topic: Rules of Counting and Probability

Assessment related to the topic covered

Assigned Readings

Practice worksheets/ Questions

The breakup is as follows:

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

[OPTIONAL] Missed Assignments/ Make-Ups/ Extra Credit
- No delayed assignments.
-No Make-up class and exam
-No retake 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 classroom for class activities and ma ask questions related to lesson taught.

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 and applies for Fall as well

Grade	Point Value	Numerical Value	Meaning
A	4.00	93-100	Superior
A-	3.70	90-92	
B+	3.30	87-89	Good
B	3.00	83-86	
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

Student Conduct & Other Issues:
- Consider including ground rules for appropriate classroom interactions, as well as a clear statement of expectations that classroom interactions will remain civil, respectful, and supportive.
- If any student faces any issues or has any concerns regarding the classroom climate and interactions, please feel free to contact VR office gloriacalib@fccollege.edu.pk

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

- Student Counseling Services
- Writing Center
- Mercy Health Center

Other Useful Policy Documents:

- 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

Developed by CLT (2020) from:
FCC Policy for Fall Semester 2020
https://www.aascu.org/
https://blended.online.ucf.edu/

Note:
Pl see https://unitguides.mq.edu.au/ for additional options. Macquarie University has their syllabus online (called Unit Guides and are publicly viewable)
See additional information for Syllabus Checklist and for How to Create a Syllabus

Please also consider High Impact Practices for your classes