

Course Name: Quantitative Methods in Social Sciences		
Course Code: STAT 103	Course Type: Elective	Course Credits: 3
Class Timings: 09:30 – 10:45 a.m. (Tue, Thu)	Section: A Room: S – 320 Lab	Office Hours: 1100 to 1200 MWF
Instructor Name: Muhammad Anwar Mughal <i>Ph.D.</i>		
<p>A Note from the Instructor:</p> <p>- <i>Policy for in-class students</i></p> <ul style="list-style-type: none"> • Lectures will be delivered in class face to face • Recorded Lecture and reading Material will be uploaded on Moodle • Quizzes will be accomplished through Moodle during Class time. Dates will be announced in-class as well as on Moodle • Assignments will be posted on Moodle and submissions are also executed through Moodle. • Feedbacks will be uploaded on Moodle. <p>-<i>Policy for online students</i></p> <ul style="list-style-type: none"> • Recorded Lectures will be uploaded on Moodle • Reading Material will be uploaded on Moodle • Quizzes will be accomplished through Moodle during Class time. Dates will be announced on Moodle • Assignments will be posted on Moodle and submissions are also executed through Moodle. • Feedbacks will be uploaded on Moodle. 		
<p>Instructor Contact Details</p> <p>Email: anwarmughal@fccollege.edu.pk</p> <p>Office Hours (In-person): Monday Wednesday Friday- 11:00 to 12:00 p.m.</p> <p>Guidelines for contacting instructor:</p> <ul style="list-style-type: none"> • Meet In-person • For online meeting make an appointment via email 		
<p>Course Description:</p> <p>Pre-requisites if any:</p> <p>Mode of Instruction: Asynchronous/ Synchronous</p> <p>Mode of peer-to-peer Contact Among Students: online discussion forums</p>		
<p>Main Mode of Instruction: Moodle, Google meet and MS Teams</p> <p>Technology Requirements:</p> <ul style="list-style-type: none"> • Students need to have a computer/ laptop/ IBM spss 20.0 or higher/ smartphone <p>Technology Etiquettes</p> <ul style="list-style-type: none"> • In scheduled classes 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.

OPTIONAL]: Program Objectives Addressed (which goals of the academic program/department does this course address?)

- A. Demonstrate knowledge about basic statistical concepts, terms and techniques
- B. Analyze various types of data and interpret the results effectively
- C. Think critically about applications of Statistics in various fields
- D. Practice high moral and ethical values in their personal and professional lives and in their communities

Course objective/learning outcomes

At the end of the course the student will:

1. identify the type of data and use appropriate methods to collect and summarize data.
2. analyze data with the help of appropriate statistical techniques and interpret the results.
3. be able to learn and apply statistical inference techniques.
4. be able to investigate the nature and strength of the relationship between variables.

Course Content, Learning Material & Activities Schedule

Wk	Topic/ Title	<u>Teaching-Learning Activities</u>		<u>Assessment & Rubrics</u>
		Synchronous (Simultaneously conducted) <i>Presentation / Lecture Live Video-Audio Small Group Discussion/ Breakout Rooms In-class quiz Q&A/ Live Chat</i>	Asynchronous (postal/ Moodle/ email) <i>Discussion blogs WhatsApp Readings Moodle Quizzes Assignment Submission Online Content/ Recordings Lecture notes/ Annotated PPT Experiential learning</i>	
		In-Person	Off-campus and offline	
1	Data collection, Measurement scales, Variables, Population, Sample, Sampling Variables.	In-class lecture	Moodle, Readings, PowerPoint Presentations, Lecture recording	
	Introduction to IBM spss and data entry simulation	In-class lecture, hands-on practice on spss	Moodle, Lecture recording	

2	Data organizing using spss,	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	
	Cont.	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	
3	Vital Statistics: Rates and Ratios: <ul style="list-style-type: none"> • Age-Sex • Child-Women • Birth-Death • Population Growth rates 	In-class lecture, hands-on practice on Excel	Moodle, Readings, Lecture recording	
	Death or Mortality Rates: <ul style="list-style-type: none"> • Crude • Specific • Infant Mortality • Case Fatality • Standardized 	In-class lecture, hands-on practice on Excel	Moodle, Readings, Lecture recording	
4	Birth or Natality Rates: <ul style="list-style-type: none"> • Crude • Specific • Standardized 	In-class lecture, hands-on practice on Excel	Moodle, Readings, Lecture recording	
	Reproduction Rates: <ul style="list-style-type: none"> • Gross Reproduction • Net Reproduction 	In-class lecture, hands-on practice on Excel	Moodle, Readings, Lecture recording	
5	Data presentation and descriptive analysis	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	Assignment 1 Quiz 1
	Cont.	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	
6	Correlation analysis (simple and partial)	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	
	Simple linear regression analysis	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	Quiz 2
7	Cont..	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	
	Multiple linear regression analysis	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	Assignment 2

8	Cont..	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	
	Cont.	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	
MIDTERMS if applicable				
9	Inferential Statistics	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	
	Testing of hypothesis	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	
10	One sample t test and confidence interval for mean	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	Quiz 3
	Cont..	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	Assignment 3
11	Independent samples t test	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	
	Paired samples t test	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	
12	One-way ANOVA and PostHoc tests	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	
	Cont.	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	Assignment 4
13	Chi Square test of independence	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	
	Cont.	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	Quiz 4
14	Non-Parametric tests	In-class lecture, hands-on practice on spss	Moodle, Readings, Lecture recording	
	Cont.			

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. Andy Field, "Discovering Statistics Using SPSS" Sage.
2. Julie Pallant, "SPSS Survival Manual" Allen & Unwin.
3. Daniel Stockemer, "Quantitative Methods for the Social Sciences" Springer.
4. Sabine Landau and Brian S. Evertt., "A Handbook of Statistical Analyses using SPSS" Chapman and Hall/CRC Press.

Course Requirements:

Class Participation

Attendance and participation in discussions

Quiz 1 : (marks 10)

Topic: Descriptive analysis of data

Quiz 2 : (marks 10)

Topic: Simple and Partial correlations, simple linear regression

Quiz 3 :(marks 10)

Topic: One sample t test and confidence interval about mean

Quiz 4: (marks 10)

Topic: Oneway ANOVA and Test of Independence

Assignment 1: (marks 10)

Topic: Descriptive analysis of data

Assignment 2 : (marks 10)

Topic: Multiple linear regression

Assignment 3 : (marks 10)

Topic: Testing of hypothesis about population mean(s)

Assignment 4: (marks 10)

Topic: Oneway ANOVA

Note: The topics and numbers of (Assignments and quiz) are tentatively suggested above it may vary according to situation.

Assigned Readings

Practice data /case studies /articles

The breakup is as follows:

Class Participation	5%
Assignments:	20%
Quizzes:	15%
Midterm exam:	20%
Final term exam:	30%
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 may 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 glorialib@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:

PI 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