

Syllabus/ Course Outline Stat-103

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

Course Name: Quantitative Methods in Social Sciences		
Course Code: Stat-103	Course Type: Elective	Course Credits: 3
Class Timings: 9:30-10:45am T Th Room: S-320 COMPUTER LAB	Section: A	Student Meeting Hours/ Office Hours: 10:00-11:00 MWF
Instructor Name: Dr. Muhammad Anwar Mughal		
<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 need to have a computer/ laptop/ IBM spss 20.0 or higher • 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>		

Course Objectives/By the end of the course students will be able to:

This course is intended to provide the student with an understanding of Quantitative techniques with reference to IBM SPSS. Upon the successful completion of the course the student will be able run spss software for statistical analysis of data and will be able to interpret the spss output appropriately.

Student 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 contents, Learning Material & Activities Schedule

Week #	Topic/ Title	Instructional Material	Assessment
1	Data collection, Measurement scales, Variables, Population, Sample, Sampling Variables.	Hands-on practice in Computer lab over IBM SPSS and specimen data Reading material	
	Introduction to IBM spss and data entry simulation		
2	Data organizing using spss,		
	Cont.		
3	Vital Statistics: Rates and Ratios: <ul style="list-style-type: none">• Age-Sex• Child-Women• Birth-Death• Population Growth rates	Hands-on practice in computer lab on MS Excel using historical data on vital statistics Reading material	
	Death or Mortality Rates: <ul style="list-style-type: none">• Crude• Specific• Infant Mortality• Case Fatality• Standardized		
4	Birth or Natality Rates: <ul style="list-style-type: none">• Crude• Specific• Standardized		

	Reproduction Rates: <ul style="list-style-type: none"> Gross Reproduction Net Reproduction 		
5	Data presentation and descriptive analysis	Hands-on practice in Computer lab over IBM SPSS and specimen data Reading material	Assignment 1 Quiz 1
	Cont.		
6	Correlation analysis (simple and partial)		
	Simple linear regression analysis		Quiz 2
7	Cont..		
	Multiple linear regression analysis		Assignment 2
8	Cont..		
	Cont.		
MID TERM EXAM			
9	Inferential Statistics	Hands-on practice in Computer lab over IBM SPSS and specimen data Reading material	
	Testing of hypothesis		
10	One sample t test and confidence interval for mean		Quiz 3
	Cont..		Assignment 3
11	Independent samples t test		
	Paired samples t test		
12	One-way ANOVA and PostHoc tests		
	Cont.		Assignment 4
13	Chi Square test of independence	Reading material	
	Cont.		Quiz 4

14	Non-Parametric tests		
	Cont.		
15	CULMINATING PROJECT		
16	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. 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. Evritt., “A Handbook of Statistical Analyses using SPSS” Chapman and Hall/CRC Press.

Course Requirements:

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 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	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
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