Forman Christian College, Lahore
(A Chartered university)
Department of Mathematics

FALL 2021

Instructor Information:

Imrana Shafique
Assistant Professor
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Office Hours:
M W F: 10:00 am - 01:00 pm
T R: 11:00 am - 12:25 pm

Course Information:

Course Code: MATH-100 Course Title: Quantitative Skills
Credit hours: 3 Prerequisite: None
Class timing: T R: 12:30 pm – 01:45 pm
Section: G Room # S-410

Recommended Text:

Notes (available at photocopy shop (S-block))
(Book-1) Mathematics, *McGraw Hill Publishing*

Course Contents:

This is a general education course for Mathematics. This course will provide the basic knowledge of daily life Mathematics. Topics include basic algebra and number theory, rounding, estimating and scientific notation, fractions, algebraic expressions, factorization, solving equations, simultaneous equations and application to daily life problems, quadratic equations, percentage (profit, loss, discount, simple and compound interest, commission, taxation), Ratio and Proportion, work problems, Motion problems (time, speed and distance), basic geometry, Mean, Median, Mode and their applications in real life.

Course Objectives:

The course objective is to enable the students to understand basics of these mathematical concepts and apply in their daily life (business and financial application problems). It will improve student`s quantitative skills and enable them to interpret data, analyze graphical information and find solutions of different problems (mathematically modeled). Students will use the numerical, graphical and algebraic representations to solve mathematical problems. They will be able to solve quantitative problems that they experience in their lives.

Course Requirements:

Students are expected to attend every class and to arrive at each class on time and remain in class for the entire class period; ***minimum 70% attendance is required to appear in the final term exam***. If a student arrives **10 minutes** late, he/she will not be marked as present. Instructor may choose to lower a student's grades because of tardiness. Consult the instructor during office hours. If your visit may tend to be lengthy, make an appointment with the instructor so that she may set aside some time for you. Cell phones will be turned off / on silent while the student is in the classroom. **No cell phone calculators are to be used in quizzes, mid term and final exams**. **After due date, assignment will not be graded. There will be no make-up quiz.** Only make up of mid-term or final can be considered if solid proof will be provided within three days after exam. In case of make-up exam there will be a **0-20% deduction** in marks depending upon case to case basis. Academic dishonesty or cheating will result in zero points (grade F) and will be referred to AIC (Academic Integrity Committee) at FCC for necessary action.

Learning Outcomes:

Students will be able to:

- develop and improve quantitative skills and apply them to other disciplines.
- recognize and utilize the logical understanding in mathematics.
- analyze, model and interpret "real-world" problems mathematically.
- understand basic concepts of geometry.
- geometrically model the real world situations.
- realize the importance of mathematics in their daily life problem related to work and motion.

Course Evaluation:

Grading will be based on following criteria:

Attendance	05%
Assignments and class activities	10%
Quizzes (4 out of 5)	15%
Mid Term	30%
Final Exam	40%

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	Fair
C+	2.30	77-79	
C	2.00	73-76	Satisfactory
C-	1.70	70-72	
D+	1.30	67-69	
D	1.00	60-66	Passing

F	0.00	59 or below	Failing

Attendance marks will be distributed as follows,

95% - 100 %	5 marks
87% - 94%	4 marks
83% - 88%	3 marks
77% - 82%	2 marks
71% - 76%	1 mark
below 70%	not allowed to appear in the final exam.

Course Outline:

Week	Topics	Assessment
1	Discussion of Course Plan: course introduction, policies, requirements and grading criteria. Whole Numbers and Decimals: whole numbers, decimals, operations, order of operations, properties of equality, addition and multiplication. Positive and Negative Numbers: operations, comparing and ordering of numbers, graph of a number, absolute value of a number, opposite numbers.	
2	Number Theory: divisibility, even and odd numbers, factors, prime and composite numbers, prime factorizations, common factor, greatest common factor (GCF), common multiple, least common multiple (LCM), Exponents.	
3	Rounding, Scientific Notation, Algebraic Expressions,	QUIZ-1
4	Fractions: numerical and algebraic fractions, operations in fractions and mixed numbers. Squares and Square Roots, Factorization, Solving Equations.	Class Activity
5	Solving Simultaneous equations and their applications to daily life problems. Percentage: conversions, percentage.	QUIZ-2
6	percentage (cont.), Profit and loss, simple and compound interest.	Assignment
7	taxation, discount and commission. Ratios and Proportions: ratios and proportions.	Class Activity
8	ratios and proportions (cont.), direct and indirect proportions.	Mid Term
9	Quadratic Equations.	
10	Mean, Median, Mode and their applications.	QUIZ-3
11	Average of two or more speeds.	Assignment

12	Motion Problems, Work problems.	**QUIZ-4**
13	**Geometry:** angles, Circle and its properties.	**Class Activity**
14	Circle and its properties (cont.)	**QUIZ-5**
15	Area and Perimeter of simple figures.	**Class Activity**
	FINAL EXAM	