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

SPRING 2022
MATH-100
Section: E

Instructor Information:
Imrana Shafique
Assistant Professor
imranashafique@fccollege.edu.pk
0311-2826362
Office: S-411 (Armacost Science Building)

Office Hours:

Monday & Wednesday:	10:00 am - 10:50 am 12:00 pm - 02:00 pm
Tuesday & Thursday:	12:30 pm - 02:00 pm
Friday:	10:00 am - 10:50 am

Course Introduction:
Course Code: MATH-100
Course Title: Quantitative Skills
Credit hours: 3
Prerequisite: None
Class Room: S-410
Class Timings: Monday, Wednesday, Friday (11:00 am - 11:50 am)

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.

Recommended Text:
Notes (uploaded on Moodle also available at photocopy shop, Armacost science building)
(Book-1) Mathematics, *McGraw Hill Publishing*

Online Resource:
- Notes are uploaded on Moodle.
- Recorded video lectures will be uploaded on YouTube and link provided on Moodle, each week.

Course Objectives:
This course will help the students 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.

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. 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 allowed to be used in physical exams**.
Minimum 70% attendance is required to appear in the final term exam.
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:

- Quizzes 15%
- Attendance, class participation and behavior 05%
- Assignment 10%
- Mid-term 30%
- Final-term 40%

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.

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

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.	
2	absolute value of a number, opposite numbers. Number Theory: divisibility, even and odd numbers, factors, prime and composite numbers, prime factorizations, common factor, greatest common factor (GCF).	
3	Common multiple, least common multiple (LCM), Exponents, Rounding, Scientific Notation, Algebraic Expressions,	Quiz- 1
4	Fractions: numerical and algebraic fractions, operations in fractions and mixed numbers.	
5	Squares and Square Roots, Factorization	Assignment 1
6	Solving Equations. Solving Simultaneous equations and their applications to daily life problems.	Quiz- 2
7	Percentage: conversions, percentage, Profit and loss, simple and compound interest.	
8	taxation, discount and commission. Ratios and Proportions: ratios and proportions.	**Mid Term**
9	ratios and proportions (cont.) direct and indirect proportions.	

10	Quadratic Equations. Mean, Median, Mode and their applications.	
11	Average of two or more speeds.	Quiz- 3
12	Motion Problems, Work problems.	
13	**Geometry:** angles, Circle and its properties.	Assignment 2
14	Area and Perimeter of simple figures.	Quiz 4
15	Area and Perimeter of simple figures (cont.)	
27/06/22 to 06/07/22	**FINAL EXAM**	**As announced by university**