Forman Christian College, Lahore
(A Chartered University)
Department of Mathematics
Quantitative Skill-MATH100-C
Spring 2021

Instructor Information:

Dr. Farheen Ibraheem
Assistant Professor
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Office Hours:
12:00 pm – 1:00 pm (Monday, Wednesday & Friday)
11:30 am – 12:30pm (Tuesday, Thursday)
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Course Information:

Course title: Quantitative Skills (MATH-100)

Credit hours: 3
Class timings: Monday, Wednesday and Friday : 10:00am to 10:50am
Room: S-410
Section: C
Pre-requisite: None

Recommended Text:

➤ Mathematics, Application and Connection Course 2, McGraw Hill Publishing.
➤ Quantitative skills portion of Barron's GRE.
➤ Basic Business Mathematics, Schaum's outlines Eugene Don and Joel Lerner.
➤ New Syllabus Mathematics 1 – 3, Oxford University Press

Resources:

Video lectures and Lecture notes will be uploaded on Moodle

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 and taxation), Ratio and Proportion, work problems, distance problems (time, speed and distance), basic geometry, mean, median, mode and their applications in real life.

Course Objectives:

The course will help students to:

➢ Develop quantitative skills and apply them to other disciplines.
➢ Recognize and utilize the logical understanding in mathematics
➢ demonstrate competence in the use of numerical, graphical, and algebraic representations.
➢ Understand the basic concepts of geometry and their applications to daily life.
➢ Use mathematics and algebra to formulate and solve problems they will experience in their lives.

Learning Outcomes:

Students will be able to

➢ Develop and strengthen quantitative reasoning skills and apply them to other disciplines.
➢ Recognize and utilize the logical understanding in mathematics.
➢ Acquire and develop a mathematical sense, or intuition.
➢ Analyze, model and interpret "real-world" problems in mathematical terms.
➢ Define and understand basic concepts of geometry.

Course Requirements:

➢Students must arrive at class on time, should remain in class for the entire class period and mobile phones should be switched off or on silent mode. Students whose attendance is less than 70% won't be allowed to take the final exam. Note that there are **05 marks for attendance and class participation.** If a student arrives more than 10 minutes late or leaves class during lecture or uses mobile phone in class, he/she will be marked absent.
➢Course assessment will be through quizzes, attendance & class participation, assignments, midterm and final exam. **Absolute grading system** will be followed throughout the course. If needed, students may be asked to explain the submitted work. **Late submission of assignment will result in deduction of points for the assignment**. There is no make up for missed quizzes but **best 3 out of 4** will be counted. In extreme cases average marks for the missed quizzes might be given provided students should submit strong evidence **within 3 days** after missing the quiz. Make up for midterm and final exam is possible only under extremes cases if student provides strong documentary evidence within **3 days after missing the mid/final exam.** In case of make-up examination, there will be a 0-20% deduction in marks depending upon case to case.
➢ 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.
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Course Evaluation: Grading will be based on following criteria:

Quizzes (3)	15%
Attendance/ Class Participation and behavior	5%
Assignments	10%
Midterm	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	
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

Weeks/Starting day of the week	Topics	Assessments
(1) **March 07, 2022**	Discussion of Course Plan: course introduction, policies, requirements and grading criteria. Whole Numbers and Decimals: whole numbers, decimals, operations (addition, subtraction, multiplication, division), 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) **March 14, 2022**	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, Scientific Notation Algebraic Expressions	
(3) **March 21, 2022**	Fractions: numerical and algebraic fractions, operations in fractions and mixed numbers	Quiz-1
(4) **March 28,2022**	Solving linear equations and their applications to daily life problems	
(5) **April 04,2022**	Squares and Square Roots Factorization.	Assignment 1
(6) **April 11,2022**	Solving Simultaneous equations and their applications to daily life problems.	Quiz-2

(7) **April 19,2022**	Percentage: conversions, direct and indirect percentage.	
(8) **April 25,2022**	Percentage continued: Profit and loss and discount	Mid-term exam (on-campus)
(9) **May9, 2022**	Percentage continued: simple and compound interest, taxation and commission	
(10) **May16, 2022**	Ratios and Proportions	Assignment 2
(11) **May23,2022**	Quadratic Equations	
(12) **May30,2022**	Mean, Median, Mode, and their applications.	Quiz-3
(13) **June 06,2022**	Distance Problems, Average of two or more speeds	
(14) **June 13,2022**	Work problems	
(15) **June 20, 2022**	Basic Geometry: Area and Perimeter of simple and compound figures.	
	Final exams/assessments start. Date will be announced later.	Final Exams