Forman Christian College, Lahore
(A Chartered University)

Department of Mathematics

Fall 2021

InstructorInformation

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Office Hours:
Mon, Wed, Fri : 12:00noon – 12:50pm

Course Information:
Course title: Quantitative skills (MATH-100)
Credit hours: 3
Pre-requisite: None
Section:

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 Introduction:
This is a general education course for Mathematics. This course will provide the basic knowledge of daily life Mathematics. This course will help students to develop quantitative skills and apply them to other disciplines. This course will enable the students to recognize and utilize the logical understanding in mathematics and demonstrate competence in the use of numerical, graphical, and algebraic representations. In this course students will understand the basic concepts of geometry and their applications in daily life.
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.

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.
- identify, describe and apply geometrical models to real world situations.
- Formulate problems mathematically and solve them.

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. 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 he may set aside some time for you. Cellular phones will be turned off while the student is in the classroom. No cell phone calculators are to be used in quizzes, mid term and final exams. Course assessment will be through quizzes, assignment, attendance and behavior, midterm, and final exam. Students should make every effort to submit (online) assignments on time to assure timely assessment.

There will be no make up quiz, mid term or final exam. 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.

Course Evaluation:

Grading will be based on following criteria:

Attendance, In class performance & behavior 5%

Homework 10%

Quizzes (4 and best 3 will be considered) 15%

Mid Term 30%

Final Exam(online and open book) 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

Course Outline:

Week	Topics	Assessment
(1)	Discussion of Course Plan: course introduction, policies, requirements and grading criteria. Basic Algebra and number theory.	
(2)	Fractions, proper fractions, improper fractions, mixed numbers and their applications.	
(3)	Rounding, Estimating, Scientific notation	**QUIZ-1**
(4)	Decimals, Factorization	
(5)	Solving linear equations and word problems	
(6)	Simultaneous equations (Two linear equations with two unknowns) and their applications to daily life.	**QUIZ-2**
(7)	Percentage (conversions, one quantity as a percentage of another, percentage increase and decrease.)	
(8)	Profit, loss, discount, simple and compound interest, commission, property tax, sales tax and income tax)	Mid term
(9)	Ratio (expressing as ratio, equivalent ratio, increase and decrease in a ratio)	
(10)	proportion (direct and inverse)	
(11)	Solution of Quadratic Equations and their applications.	
(12)	Rate problems, Distance problems, Work problems,	**QUIZ-3**
(13)	Mixture Problem, Mean, Median, Mode, and their applications	
(14)	Basic geometry (Angles and its types, supplementary and complementary angles, interior and exterior angles of a triangle	
(15)	Area and circumference of a circle, Area and perimeter of polygons, finding area of shaded regions	**QUIZ-4**
(16)	**FINAL EXAM**	