Institute of English Studies
Faculty of Arts and Humanities
University of the Punjab, Lahore.

Course Outline

Programme	BS English Literature	**Course Code**	GQR-101	**Credit Hours**	3
Course Title	**Quantitative Reasoning (I)**				

Course Introduction

Quantitative Reasoning (I) is an introductory-level undergraduate course that focuses on the fundamentals of quantitative concepts and analysis. The course is designed to familiarize students with basic concepts of mathematics and statistics. It aims to develop students' abilities to analyze and interpret quantitative information. Through a combination of theoretical concepts and practical exercises, this course will also enable students cultivate their quantitative literacy and problem-solving skills while effectively expanding their academic horizon and breadth of knowledge in their respective major.

Learning Outcomes

On the completion of the course, the students will be able to:

1. Identify and define fundamental mathematical and statistical concepts.
2. Explain and interpret numerical information and statistical ideas to understand their meaning accurately.
3. Apply mathematical, numerical, and statistical techniques to analyze data presented in tables, graphs, charts, and equations.
4. Examine numerical and statistical data to identify patterns, relationships, and trends.
5. Evaluate the accuracy and relevance of data interpretations and synthesize findings to present information clearly and effectively.

	Course Content	**Assignments/Readings**
Week 1	**Unit-I Numerical Literacy** 1.1 Number system and basic arithmetic operations; 1.1.1 Units and their conversions, area, perimeter and volume	Units and their conversions
Week 2	1.2 Rates, ratios, proportions and percentages	Ratios and proportions
Week 3	1.3 Tabular and graphical presentation of data 1.4 Quantitative reasoning exercises using number knowledge	Representation of Data
Week 4	**Unit-II Fundamental Mathematical Concepts** 2.1 Basics of geometry 2.1.1 Lines, angles, circles, polygons	Geometry of lines, circles and polygons
Week 5	2.2 Sets and their operations 2.2.1 Relations, functions, and their graphs	Functions and its types

Week 6	2.3 Exponents, factoring and simplifying algebraic expressions	Simplifying algebraic expressions
Week 7	2.4 Algebraic and graphical solutions of linear and quadratic equations and inequalities	Solutions of Equations
Week 8	**MIDTERM EXAMINATION**	
Week 9	**Unit III Fundamental Statistical Concepts** 3.1 Types and sources of data 3.1.1 Measurement scales	Measurement scales
Week 10	3.2 Tabular and graphical presentation of data 3.2.1 Population and sample	Presentation of data
Week 11	3.3 Summarizing data; Measures of central tendency	Mean, median and Mode
Week 12	3.4 Measures of central dispersion and its applications	What are measures of dispersion?
Week 13	3.5 Rules of counting (multiplicative, permutation and combination)	Permutation and Combinations
Week 14	3.6 Basic concept of probability 3.6.1 Applications of a priori and relative frequency approach	Probability
Week 15	3.7 Quantitative reasoning exercises using fundamental statistical concepts	Related exercises
Week 16	**END TERM EXAMINATION**	

Textbooks and Reading Material

1. Burzynski, D., & Ellis, W. (2008). *Fundamentals of Mathematics*.
2. Zaslow, E. (2020). *Quantitative reasoning: Thinking In Numbers*. Cambridge University Press.
3. Bennett, J. O., Briggs, B. L., & Briggs, W. L. (2014). *Using and Understanding Mathematics*. Pearson Education Limited.
4. Lock, R. H., Patti Frazer Lock, Kari Lock Morgan, Lock, E. F., & Lock, D. F. (2020). *Statistics: Unlocking The Power Of Data*. Wiley.

Teaching Learning Strategies

Following teaching strategies are to be adopted:

1. Class Discussion
2. Reading and analyzing the text through interactive sessions.
3. Class presentations.
4. Group Discussions
5. Lectures, seminars and tutorials

Assignments: Types and Number with Calendar			
Two assignments, one before midterms and one after midterm, to be submitted. The students are advised to get their topics approved by the teacher.			
Assessment			
Sr. No.	**Elements**	**Weightage**	**Details**
1.	Midterm Assessment	25%	Written Assessment at the mid-point of the semester.
2.	Formative Assessment	15%	Continuous assessment includes: Classroom participation, assignments, presentations, viva voce, attitude and behavior, hands-on-activities, short tests, projects, practical, reflections, readings, quizzes etc.
3.	Final Assessment	60%	Written Examination at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.