BRONX COMMUNITY COLLEGE
Of the City University of New York

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

SYLLABUS: MTH21 – SURVEY OF MATHEMATICS 1   [3 credits, meets 3 hours per week]

PREREQUISITE: MTH05 or equivalent; corequisite ENG02 and/or RDL02, if required

TEXT: "Mathematics, A Practical Odyssey," by D. Johnson and T. Mowry, 8th edition CENGAGE Learnng, 2014

Number Systems and Number Theory (3 weeks)	**Suggested homework**
7.1 Place systems	Problems 1-33 (odd).
7.2 Addition and subtraction in different bases	Problems 1-23 (odd)
7.3 Multiplication and division in different bases (divison is optional)	Problems 1-15 (odd)
7.5 Fibonacci numbers and the Golden Ratio	Problems 1, 3, 5, 9, 11 (if discussed in class)

Sets and Counting (3 weeks)

2.1 Sets and set opertations	Problems 1, 7, 9, 17 – 25 (odd), 29, 41-49 (odd)
2.2 Applications of Venn diagrams	Problems 1, 3, 5, 27-31 (odd)
2.3 Introduction to combinatorics	Problems 1, 5, 15, 17, 23-35 (odd)
2.4 Permutations and combinations	Problems 1, 3, 5, 13, 1, 19-37 (odd), 49, 53

Probability (3 weeks)

3.1 History of probability (optional)	If time permits, in class do some hands on exercises from the exercises section.
3.2 Basic terms of probability	Problems 1-28 (all).
3.3 Basic rules of probability	Problems 11-25 (odd), 47-53 (odd).
3.4 Combinatorics and probability	Problems 1-13 (odd), 21

Finance (3 weeks)

5.1 Simple interest	Problems 5-19 (odd), 37.
5.2 Compound interest	Problems 1-19 (odd), 29, 31, 35.
5.3 Annuities	Problems 1,3, 5, 9, 19.

Linear Programming (2 weeks)

12.0 Review of linear inequalities	Problems 1-19 (odd)
12.1 The geometry of linear programming	Problems 1-11 (odd)

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