

**BRONX COMMUNITY COLLEGE**  
**of the City University of New York**  
**DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE**

**SYLLABUS: MTH 01 Fundamental Concepts and Skills in Arithmetic and Algebra**  
**4 hours, 0 credits; Corequisite: RDL 01 if required**

**Text: Developmental Mathematics, 4<sup>th</sup> ed., by Johnson, Willis & Hughes**

**Learning Objectives:** Proficiency in the arithmetic of signed numbers, fractions, mixed numbers and decimals. Proficiency in the use and application of percents, ratios and proportions. Ability to solve simple linear equations.

**Course Outline:** (28 Two-Hour Lessons)

**Lesson 1**

<b>Section</b>	<b>Topic: Whole Numbers, I</b>	<b>Homework</b>
1.4	Addition of Whole Numbers	p. 11: 5,11,19, 21, 29, 33
1.5	Subtraction of Whole Numbers	p. 14: 1,7, 13, 19, 21, 25
1.6	Multiplication of Whole Numbers	p. 19: 11, 19, 31, 45, 47

**Lesson 2**

<b>Section</b>	<b>Topic: Whole Numbers, II</b>	<b>Homework</b>
1.7	Powers of Whole Numbers	p. 21: 1,5,9, 12, 13, 17, 19, 23
1.8	Powers of Ten	p. 22: 1,3,5,7,9,11, 13, 17, 19
1.9	Division of Whole Numbers	p. 28: 1,7, 13, 17, 21, 29, 33, 39

**Lesson 3**

<b>Section</b>	<b>Topic: Whole Numbers, III</b>	<b>Homework</b>
1.10	Square Roots	p. 29: 1,3,5,7,9, 11, 15, 19, 29
1.11	Order of Operations	p. 32: 1,3,5,7, 9, 19, 21, 23, 29
1.12	Average	p. 34: 1,3,7,9, 11, 13, 15
1.13	Perimeter and Area	p. 36: 1,3,5,7, 9, 11 p. 37: 1,3,5,7

**Lesson 4**

<b>Section</b>	<b>Topic: Fractions, I</b>	<b>Homework</b>
2.1	Meaning of Fractions	p. 48: 3,5,7,9,11
2.2	Multiplication of Fractions	p. 49: 1,3,5,7,9,15
2.3	Changing an Improper Fraction to a Mixed Number	p. 51: 1,5,9,13,15,17
2.4	Changing a Mixed Number to an Improper Fraction	p. 52: 1,3,5,7,9,13,19

**Lesson 5**

Section	Topic: Fractions, II	Homework
2.5	Equivalent Fractions	p. 54: 1,3,5,7,9,11,13
2.6	Prime Factorization	p. 56: 1,3,7,9,11,13
2.7 A	Reducing Fractions to Lowest Terms	p. 59: 1,5,9,13,17,19,23,25
2.7 B	Shortening Multiplication of Fractions	p. 60: 1,3,7,9,11,13,15,17,21

**Lesson 6**

Section	Topic: Fractions, III	Homework
2.8	Adding and Subtracting Like Fractions	p. 62: 1,3,5,7,11,13,15
2.9	Lowest Common Denominator	p. 64: 1,3,5,7,9,11, 13
2.10	Adding and Subtracting Unlike Fractions	p. 67: 1,5,9,11, 15,21,27,31,37
2.11	Adding Mixed Numbers	p. 69: 1,3,7,9,13, 15,19, 25,31

**Lesson 7**

Section	Topic: Fractions, IV	Homework
2.12	Subtracting Mixed Numbers	p. 71: 1,3,5,7,9,13, 17,21,23
2.13	Multiplying Mixed Numbers	p. 72: 1,3,5,9,11,15, 17, 21
2.14	Division of Fractions	p. 74: 3,5,7,9,15, 19, 23, 29, 39

**Lesson 8**

Section	Topic: Fractions, V	Homework
2.17	Combined Operations	p. 80: 1,3,5,7, 9, 11, 13
2.18	Comparing Fractions	p. 81: 1,3,5,7,9,11,13,15

**Lesson 9**

Section	Topic: Decimals, I	Homework
3.1	Reading/Writing Decimals	p. 91: 1,3,5,9,11,13, 15, 19
3.2	Rounding off Decimals	p. 94: 1,3,7,9, 11, 13, 15, 17
3.3	Adding Decimals	p. 96: 1,5,7,9,11, 12
3.4	Subtracting Decimals	p. 97: 1,3,5,7,9,11

**Lesson 10**

Section	Topic: Decimals, II	Homework
3.5	Multiplication of Decimals	p. 99: 1,3,7,9,11, 13
3.6A	Dividing a Decimal by a Whole Number	p. 101: 1,3,5,7,9,11,17, 19, 21
3.6 B	Dividing a Decimal by a Decimal	p. 103: 1,3,7,11,15, 21,23,27
3.7	Multiplying and Dividing Decimals by Powers of Ten	p. 106: 1,3,5,7,9,11,13,15

**Lesson 11**

<b>Section</b>	<b>Topic: Decimals, III</b>	<b>Homework</b>
3.9	Combined Operations	p. 109: 1,3,7,9, 11
3.10	Changing a Fraction to a Decimal	p. 112: 1,3,7,9,11, 13, 15
3.11A	Changing a Decimal to a Fraction	p. 113: 1,3,5,7,9,11,13,15, 19
3.13	Comparing Decimals	p. 118: 1,3,5,7

**Lesson 12**

<b>Section</b>	<b>Topic: Ratio and Proportion, I</b>	<b>Homework</b>
4.1	Ratio and Rate Problems	p. 127: 3,7,11,19,25, 27, 31
4.2	Proportion Problems	p. 133: 3,5,9,11,19,21

**Lesson 13**

<b>Section</b>	<b>Topic: Ratio and Proportion, II</b>	<b>Homework</b>
4.3	Word Problems using Proportions	p. 136: 1,3,5,7,11, 15, 21
17.4	Similar Triangles	p. 494: 1,2,3,4

**Lesson 14**

<b>Section</b>	<b>Topic: Percent, I</b>	<b>Homework</b>
4.4 A	Changing a Decimal to a Percent	p. 138: 1,3,5,7,9
4.4 B	Changing a Percent to a Decimal	p. 139: 1,3,5,7,9,11
4.4 C	Changing a Fraction to a Percent	p. 139: 1,3,5,7,9,17
4.4 D	Changing a Percent to a Fraction	p. 140: 5,11,13,21, 23, 25, 29, 31, 35

**Lesson 15**

<b>Section</b>	<b>Topic: Percent, II</b>	<b>Homework</b>
4.5	Finding a Fractional Part of a Number	p. 143: 1,5,9, 15, 17, 21, 25
4.6	Percent Problems	p. 146: 1,3,5,7,9,13
4.7	Word Problems Using Percent	p. 150: 1,3,5,7,9,11

**Lesson 16**

<b>Section</b>	<b>Topic: Signed Numbers, I</b>	<b>Homework</b>
6.1	Signed Numbers	p. 183: 1,5,9,11, 15, 17, 19, 23, 29
6.2	Adding Signed Numbers	p. 188: 5,11,17,29,35,41, 51,55, 57, 59, 63

**Lesson 17**

<b>Section</b>	<b>Topic: Signed Numbers, II</b>	<b>Homework</b>
6.3	Subtracting Signed Numbers	p. 190: 3,5,7,9, 15, 19, 23, 33, 39, 45, 47, 53, 55, 59
6.4	Multiplying Signed Numbers	p. 194: 3,5,7,11, 21,29, 31,33,37, 39,43

**Lesson 18**

<b>Section</b>	<b>Topic: Signed Numbers, III</b>	<b>Homework</b>
6.5	Dividing Signed Numbers	p. 196: 1,7,9,13,17, 23, 27, 31, 33, 35, 37, 39
6.6	Properties	p. 199: 1,3,5,11,13,17, 21, 23,29
6.7	Operations with Zero	p. 200: 1,3,5,7,9,11,15,17. 19, 25

**Lesson 19**

<b>Section</b>	<b>Topic: Signed Numbers, IV</b>	<b>Homework</b>
6.8	Powers of Signed Numbers	p. 203: 3,7,9, 11, 21,27, 29, 31,33, 35, 39,41
6.9	Square Roots of Signed Numbers	p. 205: 1,3,7,9,11,13,15,17,19,21

**Lesson 20**

<b>Section</b>	<b>Topic: Evaluating Expressions, I</b>	<b>Homework</b>
7.1	Order of Operations	p. 212: 3,7,11,13,21,29,31,33,39,43,45,47
7.2	Grouping Symbols	p. 215: 1,3,5,7,11,15,17,19,25,31,33,35,39

**Lesson 21**

<b>Section</b>	<b>Topic: Evaluating Expressions, II</b>	<b>Homework</b>
7.3	Evaluating Expressions	p. 217: 1,3,7,11,21,29,31,33,37,39,45,47
7.4	Evaluating Formulas	p. 219: 1,3,5,7,9,11,15,17,19,21,23

**Lesson 22**

<b>Section</b>	<b>Topic: Linear Equations</b>	<b>Homework</b>
9.1	Solving Linear Equations	p. 260: 1-29 (odd), 45, 49
9.2	Solving Linear Equations	p. 262: 1-29 (odd), 37, 39

**Lesson 23: open****Lesson 24: open****Lesson 25: open****Lesson 26: open****Lesson 27: COMPASS M1 Test****Lesson 28: open**