

**AFM006M – Entry Math**

*6 credits, 16 weeks, 8 hours / week*

AFM 006 will cover all four operations (addition, subtraction, multiplication, division) on whole numbers, fractions and decimals including order of operations. An introduction to the language of algebra and the solving of one step linear equations, calculating the perimeter and area of basic polygons and the interpretation of graphed data will be explored.

**Instructor**

Linda Mason  
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**Office Hours**

Office Hours: Monday – Thursday (8.30 – 9.00am)  
Monday – Wednesday (12.00 – 1.00pm)

**Hours of Instruction**

Monday – Thursday: 1.00 – 3.00pm

**Required Resources**

1. “Stepping it Up”- foundations for success in college math. – Math 006.  
ISBN 0-558-62895-8
2. Teacher Prepared materials.

**Course Outcomes**

Develop number sense

1. Demonstrate an understanding of place value, including numbers that are:  greater than one million  less than one thousandth.
2. Solve problems involving whole numbers and decimal numbers.
3. Demonstrate an understanding of factors and multiples by:  determining multiples and factors of numbers less than 100;  identifying prime and composite numbers  solving problems using multiples and factors.
4. Relate improper fractions to mixed numbers and mixed numbers to improper fractions.
5. Demonstrate an understanding of ratio, concretely, pictorially and symbolically.
6. Demonstrate an understanding of percent (limited to whole numbers), concretely, pictorially and symbolically.
7. Demonstrate an understanding of integers, concretely, pictorially and symbolically.
8. Demonstrate an understanding of multiplication and division of decimals (1-digit whole number multipliers and 1-digit natural number divisors).
9. Explain and apply the order of operations, excluding exponents, with and without technology (limited to whole numbers).

Use patterns to describe the world and to solve problems.

1. Represent and describe patterns and relationships, using graphs and tables.
2. Demonstrate an understanding of the relationships within tables of values to solve problems.

Represent algebraic expressions in multiple ways

1. Represent generalizations arising from number relationships, using equations with letter variables.
2. Express a given problem as an equation in which a letter variable is used to represent an unknown number.
3. Demonstrate and explain the meaning of preservation of equality, concretely and pictorially.

Use direct and indirect measurement to solve problems.

1. Demonstrate an understanding of angles by:  identifying examples of angles in the environment  classifying angles according to their measure  estimating the measure of angles, using  $45^\circ$ ,  $90^\circ$  and  $180^\circ$  as reference angles  determining angle measures in degrees  drawing and labelling angles when the measure is specified.
2. Demonstrate that the sum of interior angles is:   $180^\circ$  in a triangle   $360^\circ$  in a quadrilateral.
3. Develop and apply a formula for determining the:  perimeter of polygons  area of rectangles  volume of right rectangular prisms.

Describe the characteristics of 3-D objects and 2-D shapes, and analyze the relationships among them.

1. Construct and compare triangles, including:  scalene  isosceles  equilateral  right  obtuse  acute in different orientations.
2. Describe and compare the sides and angles of regular and irregular polygons.

Describe and analyze position and motion of objects and shapes.

1. Perform a combination of translations, rotations and/or reflections on a single 2-D shape, with and without technology, and draw and describe the image.
2. Perform a combination of successive transformations of 2-D shapes to create a design, and identify and describe the transformations.
3. Identify and plot points in the first quadrant of a Cartesian plane, using whole number ordered pairs.
4. Perform and describe single transformations of a 2-D shape in the first quadrant of a Cartesian plane (limited to whole number vertices).

Collect, display and analyze data to solve problems.

1. Create, label and interpret line graphs to draw conclusions.
2. Select, justify and use appropriate methods of collecting data, including:  questionnaires  experiments  databases  electronic media.
3. Graph collected data, and analyze the graph to solve problems.

Use experimental or theoretical probabilities to represent and solve problems involving uncertainty.

1. Demonstrate an understanding of probability by:  identifying all possible outcomes of a probability experiment  differentiating between experimental and theoretical probability  determining the theoretical probability of outcomes in a probability experiment  determining the experimental probability of outcomes in a probability experiment  comparing experimental results with the theoretical probability for an experiment

### Evaluation

Assignments	<b>60%</b>
Unit Tests	<b>10%</b>
Midterm	<b>10%</b>
Final Exam	<b><u>20%</u></b>
<b>Total</b>	<b>100%</b>

*The minimum pre-requisite for progression is 1.7 (refer to Grading System on following page)*

### Grading System

<b>Descriptor</b>	<b>4.0 Scale</b>	<b>Percent</b>
Excellent	4.0	96 – 100
	4.0	90 – 95
	3.7	85 – 89
Good	3.3	81 – 84
	3.0	77 – 80
	2.7	73 – 76
Satisfactory	2.3	69 – 72
	2.0	65 – 68
	<b>Minimum Prerequisite</b>	1.7
Poor	1.3	55 – 59
Minimum Pass	1.0	50 – 54
Failure	0.0	0 – 49

**Proposed Schedule of Topics**

<b>WEEK</b>	<b>DATES</b>	<b>MODULE</b>	<b>TOPIC</b>	<b>TESTS</b>
1-3	Jan 5 - 23	1	<b>Whole Numbers.</b> - addition and subtraction, multiplication & division.	<b>Jan 23</b>
4 - 6	Jan 26 – Feb 13	2	<b>Fractions:</b> understanding, simplifying, converting improper and mixed numbers, multiplication & division, LCD, adding and subtracting.	<b>Feb 13</b>
7 - 10	Feb 16 – Mar 13	3	<b>Decimals:</b> comparing, ordering and rounding, adding & subtracting, multiplying & dividing. Converting fractions to decimals, order of operations.	<b>Mar 13</b>
8	Feb 23 - 27		<b>Reading Week</b>	
11 - 12	Mar 16 - 27	4	<b>Statistics:</b> circle graphs, bar and line graphs, histograms, mean, median and mode.	<b>Mar 27</b>
13 – 15	Mar 30 – Apr 17	<b>5</b>	<b>Measurement:</b> U.S customary units; metric – length, volume, weight; converting units. Applied problems.	<b>Apr 17</b>
16	Apr 20 - 22		Review	
	Apr 24 - 29		<b>Final Exam Week</b>	<b>Apr 27th</b>

**Please Note:**

Date and time allotted to each topic is subject to change. It is your responsibility as a student to contact the Office of the Registrar to complete the forms for Withdrawal or Change of Registration, and any other forms. Please refer to the list of important dates as noted in the Academic Schedule in the Keyano College Credit Calendar.

**Student Attendance**

Class attendance is useful for two reasons. First, class attendance maximizes a student's learning experience. Second, attending class is a good way to keep informed of matters relating to the administration of the course (e.g., the timing of assignments and exams). Ultimately, you are responsible for your own learning and performance in this course.

It is the responsibility of each student to be prepared for all classes. Students who miss classes are responsible for the material covered in those classes and for ensuring that they are prepared for the next class, including the completion of any assignments and / or notes that may be due.

**Academic Misconduct**

Students are considered to be responsible adults and should adhere to principles of intellectual integrity. Intellectual dishonesty may take many forms, such as:

- Plagiarism or the submission of another person's work as one's own
- The use of unauthorized aids in assignments or examinations (cheating)
- Collusion or the unauthorized collaboration with others in preparing work
- The deliberate misrepresentation of qualifications
- The willful distortion of results or data
- Substitution in an examination by another person
- Handing in the same unchanged work as submitted for another assignment

Penalties for academic offences range from a verbal reprimand to dismissal from the College, and in certain circumstances may involve legal action.

**Specialized Supports****Counselling and Disability Services**

Counselling Services provides a wide range of specialized counselling services to prospective and registered students, including personal, career and academic counselling.

**SKILL Centre**

The SKILL Centre is a learning space in the Clearwater Campus at Keyano College where students can gather to share ideas, collaborate on projects and get new perspectives on learning from our tutorial staff.

The SKILL Centre, through a variety of delivery methods, provides assistance in skill development to Keyano students. Assistance is provided by instructors, staff and student tutors. Individuals wishing to improve their mathematics, writing, grammar, study, or other skills, can take advantage of this unique service.

**Authorization**

This course outline has been reviewed and approved by the Program Chair.

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[First Name, Last Name], Instructor

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Lisa Turner, Chair

Date Authorized

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Guy Harmer, Dean

Date Authorized

**Signed copies to be delivered to:**

Instructor

Registrar's Office