



Academic Foundations

School of Career & Education Access
ACADEMIC FOUNDATIONS MATH 006(AFM006)
Section M
COURSE OUTLINE
FALL 2013

Course Description

ACADEMIC FOUNDATIONS MATH 006

AFM006 – 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 Contact Information, Office Hours

Course Hours: Monday /Tuesday: 9.00-11.00; Wed: 12.00-2.00pm; Thurs: 10.00-12.00

Instructor: Linda Mason

E-mail: linda.mason@keyano.ca

Phone Number: 780-828-4433

Blackberry: 780-838-1652

Office: Dorothy McDonald Learning Centre, Fort McKay.

Office Hours: Monday – Wednesday (7.45 – 8.30)

Monday/Thursday(12.00 – 12.30) Thurs: (8.30-9.00) Friday (9.00-9.15)

Required and Recommended Resources

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

STUDENT LEARNING 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° , 90° and 180° 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° in a triangle 360° 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	60%
Unit Tests	10%
Midterm	10%
Final Exam	<u>20%</u>
Total	100%

KEYANO COLLEGE GRADING SCALE

Descriptor	Alpha Grade	4.0 Scale	Percentage
Excellent	A+	4.0	91-100
	A	4.0	86-90
	A-	3.7	80-85
	B+	3.3	76-79
Good	B	3.0	73-75
	B-	2.7	70-72
	C+	2.3	67-69
Satisfactory	C	2.0	64-66
	C-	1.7	60 -63
Poor	D+	1.3	57- 59
Minimal Pass	D	1.0	50-56
Failure	F	0.0	0-49

- A minimum grade of C-, or 60%, is required for progression from one level to another
- A grade of D will allow you to pass a course, but it is not sufficient to allow you to move to the next level.
- A grade of C or better, 65% or more, is required in the 13, or 23 level courses to be acceptable as a prerequisite to a 30 level.
- A grade of C or better, 65% or more, is required in the 33 level courses to meet the requirements to obtain a Keyano High School Equivalency.

FINAL EXAMINATION

All final exams must be written on the specified examination date unless the conditions listed in the Keyano College Calendar under "Deferred Exams" apply.

CLASS STRUCTURE

Module assignments can be completed independently or with a partner.

CLASSROOM EXPECTATIONS

In order to make the learning center a happy and productive place to learn, each student is expected to:

- attend classes regularly;
- arrive to school on time;
- phone the learning center to notify the instructor should she/he be unable to attend classes that day;
- limit the use of the school telephone to short important phone calls;
- keep her/his work table tidy;
- wash her/his own dishes;
- wear indoor shoes or slippers to help keep the classroom floors clean;
- show respect to fellow students and contribute to maintaining a peaceful learning atmosphere.

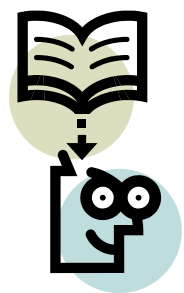
ADDITIONAL INFORMATION

1. Tests must be written when scheduled. Make-up tests will not be given and you will receive a grade of zero unless:
 - a. the instructor has been notified on or before the day the test is scheduled and
 - b. a medical certificate is produced indicating a serious illness or
 - c. An exceptional circumstance beyond the student's control arises.If the test is not written as scheduled and above conditions are met, the weighting of the test may be shifted to the final exam upon request of the student and agreement of the instructor.
2. The final exam will be cumulative.

STUDENT RIGHTS AND RESPONSIBILITIES

Students should be aware of their rights and responsibilities as laid out in the *Keyano College Credit Calendar 2013-2014*, on pages 31-34, or as included in the student package.

In order to "refrain from unduly disturbing, disrupting or otherwise interfering with studies..." (*KCCC, 2013/2014*, p. 32), students should turn cell phones and pagers off when they come to class, and refrain from bringing children or other visitors to class.



LEARNER ASSISTANCE PROGRAM

If you have been diagnosed with a Learning Disability in the past, or you feel that you would benefit from some assistance from a Disabilities Counsellor, please call our office 780-792-5608 to book an appointment. Services and accommodations are intended to assist you in your course, while maintaining the academic standards of Keyano College. We can be of assistance to you in disclosing your disability to your instructor, receiving accommodations, and your overall success at Keyano College.

MATH 006

WEEK	DATES	MODULE	TOPIC	TESTS
1-3	Sept 3 -20	1	Whole Numbers. - addition and subtraction, multiplication & division.	Sept 20
4 - 6	Sept 23 – Oct 11	2	Fractions: understanding, simplifying, converting improper and mixed numbers, multiplication & division, LCD, adding and subtracting.	Oct 11
7 - 9	Oct 14 – Nov 1	3	Decimals: comparing, ordering and rounding, adding & subtracting, multiplying & dividing. Converting fractions to decimals, order of operations.	Nov 1
10 - 12	Nov 4 – 22	4	Statistics: circle graphs, bar and line graphs, histograms, mean, median and mode.	Nov 22
13 – 15	Nov 25 – Dec 13	5	Measurement: U.S customary units; metric – length, volume, weight; converting units. Applied problems.	Dec 13
16	Dec 16-20	Final Exam		Dec 16

Please Note:

This schedule may be modified at the instructor's discretion to facilitate unforeseen time constraints

IMPORTANT DATES

- Sept. 10** - last day to **ADD** courses
- Sept. 17** - last day to **DROP** courses
- Oct. 11** - last day to withdraw with a 50% refund
- Oct. 25** - last day to withdraw without academic penalty

Authorizations

This course outline has been reviewed and approved by the following authorities:

Linda Mason, Instructor

Janet Lowndes, Chair

Date Authorized

Guy Harmer, Dean

Date Authorized

Signed copies to be delivered to:

Instructor
Office of the Registrar