

## MATHEMATICS 10-3



Section M  
COURSE OUTLINE  
FALL 2013

### Course Description

**MATH 10-3**  
**MATHEMATICS 10-3**

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

This course is intended for students wishing to pursue post-secondary studies in trades, certified occupations or direct entry into the workforce. It covers the following aspects of mathematics – communication, connections, mental math and estimation, problem-solving, reasoning, technology, visualization and critical thinking.

The curriculum is delivered through projects, activities and problems set in real-world contexts.

### Course Hours, Instructor Contact Information, Office Hours

**Course Hours:** Monday/Tuesday (9:00-11:00), Wednesday (2:00-3:00 pm)

E-mail: [linda.mason@keyano.ca](mailto:linda.mason@keyano.ca)

Phone Number: 780-828-4433

Blackberry: 780-838-1652

Office: Dorothy McDonald Learning Centre, Fort McKay.

Office Hours: Monday - Wed: (7.45-8.30) Mon-Thurs: (12.00-12.30) Thurs: (8.30-9.00) Fri: (9.00-9.15)

### Required and Recommended Resources

1. Mathworks 10 – Pacific Educational Press
2. Geometry set
3. Scientific calculator
4. Binder, lined paper, pencils
5. Teacher prepared materials as required.

**STUDENT LEARNING OUTCOMES**

It is expected that students will:-

- Solve problems that involve unit pricing and currency exchange, using proportional reasoning.
- Demonstrate an understanding of income, - wages, salary, contracts, commissions, piecework to calculate gross pay and net pay.
- Solve problems that require the manipulation of formulas related to income.
- Demonstrate an understanding of the SI measurement system and its units and applying strategies to convert SI units to imperial units.
- Demonstrate an understanding of the imperial system and its units and be able to convert imperial units to SI units.
- Solve and verify problems that involve SI and imperial linear measurements, including decimal and fractional measurements.
- Solve problems that involve SI and imperial area measurements of regular, composite, and irregular 2-D shapes and 3-D objects, including decimal and fractional measurements, and verify the solutions.
- Solve problems that require the manipulation and application of formulas related to perimeter, area, the Pythagorean Theorem, primary trigonometric ratios, and income.
- Develop an understanding of the Systeme International (SI) by describing the relationships of the units for length, area, volume, capacity, mass, and temperature; and applying strategies to convert SI units to imperial units.
- Demonstrate an understanding of the imperial system by describing the relationships of the units for length, area, volume, capacity, mass, and temperature; comparing the American and British imperial units for capacity; and applying strategies to convert imperial units to SI units.
- Solve problems that involve parallel, perpendicular and transversal lines, and pairs of angles formed between them.
- Demonstrate an understanding of angles, including acute, right, obtuse, straight, and reflex by drawing, replicating and constructing, bisecting, and solving problems.
- Demonstrate an understanding of similarity of convex polygons, including regular and irregular polygons.
- Develop an understanding of the Pythagorean Theorem by identifying situations that involve right triangles, verifying the formula, applying and manipulating the formula, and solving problems.
- Demonstrate an understanding of primary trigonometric ratios (sine, cosine, tangent) by applying similarity to right triangles, generalizing patterns from similar right triangles, applying the primary trigonometric ratios, manipulating the formula and solving problems.

**EVALUATION:**

Module Assignments	<b>70%</b>
Final Exam	<b>30%</b>
<b>Total</b>	<b>100%</b>

**KEYANO COLLEGE GRADING SCALE**

<b>Descriptor</b>	<b>Alpha Grade</b>	<b>4.0 Scale</b>	<b>Percentage</b>
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
	<b>C-</b>	<b>1.7</b>	<b>60 -63</b>
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

**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 36-40, or as included in the student package.

In order to “refrain from unduly disturbing, disrupting or otherwise interfering with studies...” (*KCCC, 2013/2014*, p. 37), students should turn cell phones and pagers off when they come to class, and refrain from bringing children or other visitors to class.

**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;

**CLASS STRUCTURE**

Through the semester, when necessary we will be working independently at the computer and with our modules, together as a class, and in pairs.

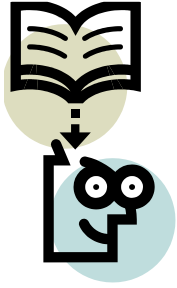
It is easier to learn some math skills by using tools and performing activities. Therefore, when a new topic is being introduced, and 1 or 2 days before a test, we will work as a class on some projects.

**SCHEDULE**

<b>WEEK</b>	<b>DATES</b>	<b>UNIT</b>	<b>TOPIC</b>	<b>TESTS</b>
<b>1 &amp; 2</b>	Sept. 4 – 13	1	<b>Unit Pricing and Currency Exchange.</b> Proportional Reasoning; Unit price; Setting a Price; On Sale; Currency Exchange Rates.	Sept 13
<b>3 &amp; 4</b>	Sept 16 – 24	2	<b>Earning an Income.</b> Wages and Salaries; Alternative ways to Earn Money; Additional Earnings; Deductions and Net Pay.	Sept 24
<b>4 – 7</b>	Sept 25 – Oct 15	3	<b>Length, Area and Volume.</b> Systems of measurement; Converting Measurements; Surface Area; Volume.	Oct 15
<b>7 &amp; 8</b>	Oct 16 - 25	4	<b>Mass, Temperature and Volume.</b> Temperature Conversions; Mass in the Imperial system; Making Conversions.	Oct 25
<b>9 – 11</b>	Oct 28 – Nov 15	5	<b>Angles and Parallel Lines.</b> Measuring, Drawing and Estimating Angles; Angle Bisectors & Perpendicular Lines; Non-Parallel Lines & Transversals; Parallel Lines & Transversals.	Nov 15
<b>12 &amp; 13</b>	Nov 18 – 29	6	<b>Similarity of Figures.</b> Similar Polygons; Determining if two Polygons are similar; Drawing Similar Polygons; Similar Triangles.	Nov 29
<b>14 &amp; 15</b>	Dec 2 - 13	7	<b>Trigonometry.</b> Pythagorean Theorem; Sine Ratio; Cosine Ratio; Tangent Ratio; Finding Angles & Solving Right Triangles.	Dec 13
<b>16</b>	Dec 16-20		<b>Final Exams</b>	Mon. Dec 16th

**Please Note:**

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

**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.

**IMPORTANT DATES:**

- Sept 10 - last day to add courses
- Sept 17 - last day to drop courses
- Oct 11 - last day to withdraw with 50% refund
- Oct 25 - last day to withdraw without academic penalty

**AUTHORIZATION**

This course outline has been authorized by:

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Linda Mason (Instructor)

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Janet Lowndes, Chair

Date authorized

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Guy Harmer, Dean

Date authorized.

Signed copies to be delivered to;  
Instructor,  
Office of the Registrar.

