



MATHEMATICS 30-3
Section G
College and Career Preparation
COURSE OUTLINE
Fall 2014

Course Description

MATHEMATICS 30-3
MATH 30-3

5 credits, 16 weeks, 5 hours / week

Math 30-3 is designed to provide with the mathematical understandings and critical-thinking skills identifies for entry into the work force. Topics include algebra, geometry, Measurement, number, statistics and probability.

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

Prerequisites: Math 20-3 or Math 20-2 or permission of the Program Chair

Alberta Education course equivalency: Math 30-3

Course Hours, Instructor Contact Information, Office Hours

Course Hours: Monday (10:00-12:00), Tuesday (10:00-12:00), Wednesday (10:00-11:00), Thursday (9:00-11:00)

Instructor: Melodee Helgason

E-mail: melodee.helgason@keyano.ca

Phone Number: 780-334-2559

Blackberry: 780-838-4361

Office Hours: Monday and Tuesday 12:00-1:00; Wednesday 1:00-2:00; Thursday 12:00-1:00 and 3:00-4:00

Required and Recommended Resources

- Mathworks 12 (2012) Pacific Educational Press
- Geometry set
- Scientific calculator
- Supplemental Instructor materials and hand-outs

Goals:

The main goals are to prepare student to use mathematics confidently to solve problems to communicate and reason mathematically, to appreciate and value mathematics, and to become mathematically literate adults, using mathematics to contribute to society. Use communication in order to learn and express their understanding. Make connections among mathematical ideas, other concepts in mathematics, everyday experiences and other disciplines .Demonstrate fluency with mental mathematics and estimation .Develop and apply new mathematical knowledge through problem solving. Develop mathematical reasoning .Select and use technology as a tool for learning and for solving problems. Develop visualization skills to assist in processing information, making connections and solving problems.

General Math Program Outcomes:

Students will

- ✓ Develop spatial sense and proportional reasoning
- ✓ Develop algebraic reasoning and number sense
- ✓ Develop algebraic and graphical reasoning through the study of relations

Learner Outcomes

Upon successful completion of Math 30-3, students will be able to:

- Demonstrate an understanding of the limitations of measuring instruments, including:
 - precision
 - accuracy
 - uncertainty
 - toleranceand solve problems.
- Solve problems by using the sine law and cosine law, excluding the ambiguous case.
- Solve problems that involve:
 - triangles

- quadrilaterals
- regular polygons.
- Demonstrate an understanding of transformations on a 2-D shape or a 3-D object, including:
 - translations
 - rotations
 - reflections
 - dilations.
- Analyze puzzles and games that involve logical reasoning, using problem-solving strategies.
- Solve problems that involve the acquisition of a vehicle by:
 - buying
 - leasing
 - leasing to buy.
- Critique the viability of small business options by considering:
 - expenses
 - sales
 - profit or loss.
- Demonstrate an understanding of linear relations by:
 - recognizing patterns and trends
 - graphing
 - creating tables of values
 - writing equations
 - interpolating and extrapolating
 - solving problems.
- Solve problems that involve measures of central tendency, including:
 - mean
 - median
 - mode
 - weighted mean

- trimmed mean.
- Analyze and describe percentiles.
- Analyze and interpret problems that involve probability.

Proposed Topics:

Chapter 1: Linear Relations

- 1.1. Linear Relations in Table and Graphs
- 1.2. The Equation of a Line
- 1.3. Scatterplots and Linear Trends

Chapter 2: Limits to Measurements

- 2.1. Accuracy and Precision
- 2.2. Tolerances
- 2.3. Histogram

Chapter 3: Statistics

- 3.1 Mean , Median, and Mode
- 3.2 Weighted and Trimmed Means and Outliners
- 3.3 Percentile Ranking

Chapter 4: Probability and Odds

- 4.1 Experimental Probability
- 4.2 Theoretical Probability
- 4.3 Odds and Probability

Chapter 5: Properties of Geometric Figures

- 5.1 Triangles
- 5.2 Quadrilaterals
- 5.3 Regular Polygons

Chapter 6: Transformations

- 6.1 Single Transformations
- 6.2 Multiple Transformations

Chapter 7: Trigonometry

- 7.1 The Sine Law
- 7.2 The Cosine Law

Chapter 8: Owning a Small Business

- 8.1 Start a Small Business
- 8.2 Operate a small Business
- 8.3 Buy or Lease a Vehicle for your Business

Evaluation

Course Evaluation

Assignments and Tests	40%
Unit Tests	40%
Final Examination	20%
TOTAL	100%

Keyano College Grading System (from Credit Calendar)

Descriptor	4.0 Grade Scale	Percentage Scale
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 %
Minimum Prerequisite	1.7	60 % - 64 %
Poor	1.3	55 % - 59 %
Minimum Pass	1.0	50 % - 54 %
Failure	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.

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.

Student Rights and Responsibilities

Students should be aware of their rights and responsibilities as laid out in the *Keyano College Credit Calendar 2014-2015*, on pages 36-39, or as included in the student package.

In order to “refrain from unduly disturbing, disrupting or otherwise interfering with studies...” (KCCC, 2014/2015, p. 36), students should turn cell phones and pagers off when they come to class, and refrain from bringing children or other visitors to class.

Additional Information:

Assignments

Assignments must be submitted in a timely fashion. You need to complete the course in one semester, so any postponement will cause delays later in the semester. If you become too far behind you will not be successful this year.

In-class Assignments/Tests

There will be no re-writes. If you must be absent, be sure to phone me to let me know before class. You will then be expected to make the assignment/test up within 24 hours of your return or a grade of zero will be given. If you are away for an extended period of time, with a legitimate reason, you will be excused from the test. **It is your responsibility to inform me of absences and to arrange make-up tests.**

Plagiarism

Taking the words or ideas of another person and stating them as your own is plagiarism. When it is necessary to borrow ideas from others, you must give credit to the lender. You may **never** use another student's work as your own. If you are resubmitting one of your own, previously marked papers, it must be with my approval. **Students who plagiarize will be given a grade of zero.**

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.

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.

Disability Services provides educational services to students with disabilities.

Both Counselling and Disability Services are located in CC167.

Important College Dates

Fall 2014

Orientation Day	September 2
First Day of Class	September 3
Last day to ADD Courses	September 9
Tuition is due (\$100 late fee charged after this date)	September 9
Last day to DROP Courses with full refund (\$100 deposit is non-refundable)	September 16
Last day to WAIVE SAKC health and dental plan or add family	September 16
Last day to submit Keyano College Fall Awards Applications	September 30
Last day to WITHDRAW with a refund (50%)	October 10
Last day to WITHDRAW (Grade of W)	November 26

Authorizations

Math 30-3 Section G

Melodee Helgason, Instructor

Lisa Turner, Chair

Date Authorized

Guy Harmer, Dean

Date Authorized

Effective Date: September 3, 2014