



MATHEMATICS 20-3
Section G
College and Career Preparation
COURSE OUTLINE
Fall 2014

Course Description

MATHEMATICS 20-3

MATH 20-3

5 credits, 16 weeks, 5 hours / week

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5 credits, 16 weeks, 5 hours lecture

Math 20-3 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.

Prerequisites: Math 10C or Math 10-3 or permission of the Program Chair.

Alberta Education course equivalency: Math 20-3

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

Cell Phone: 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

Required Text: Pacific Press *MathWorks 11 Workbook*

- Scientific calculator that has the sine (sin), cosine (cos), and tangent (tan) buttons on it.
- Geometry Set/Straight edge
- Binder, ruled paper, pencils, pen, eraser

Learner Outcomes

Goals:

The main goals are to prepare students 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.

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

Course Outcomes:

Upon successful completion of Math 20-3, students will be able to:

- Solve problems that involve SI and imperial units in surface area measurements and verify the solutions.
- Solve problems that involve SI and imperial units in volume and capacity measurements.
- Solve problems that involve two and three right triangles.
- Solve problems that involve scale.
- Model and draw 3-D objects and their views.
- Draw and describe exploded views, component parts and scale diagrams of simple 3-D objects.
- Analyze puzzles and games that involve numerical reasoning, using problem-solving strategies.
- Solve problems that involve personal budgets.
- Solve problems that involve personal budgets.
- Demonstrate an understanding of financial institution services used to access and manage finances.
- Demonstrate an understanding of credit options, including credit cards and loans.
- Solve problems that require the manipulation and application of formulas related to volume, capacity, surface area, slope and rate of change.
- Demonstrate an understanding of slope:
 - as rise over run
 - as rate of change
 - by solving problems.
- Solve problems by applying proportional reasoning and unit analysis.
- Solve problems that involve creating and interpreting graphs, including:
 - bar graphs
 - histograms
 - line graphs
 - circle graphs.

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*, or as included in the student package.

In order to “refrain from unduly disturbing, disrupting or otherwise interfering with studies...” (KCCC, 2014/2015), 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.**

Practice:

You will receive daily practice exercises, either in the textbook or as handouts. Answers are provided, thus you should check your own progress. If you choose not to do the entire exercise, pick questions from throughout the practice since question difficulty levels vary. For maximum mastery of the material, students should be prepared to spend between *one and two hours* working on problems outside of class *for every hour* in class.

Attendance

Regular, punctual attendance is necessary for success at Keyano College and on the job after graduation. Students are responsible for attending all learning activities in their courses on a regular and punctual basis. Excessive or inexcusable absences can result in poor or failing grades, loss or reduction of sponsor allowances, and/or probation or suspension.

Please notify your instructor of absences via email or voice mail (preferably in advance of the absence); if your absence will be for more than one class day, please communicate the extended absence to your instructor. It is the **student's responsibility** to seek out missed assignments/tasks that were assigned during his/her absence in a timely manner. Your instructor encourages you to make use of assigned office hours for this purpose

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.

Proposed Topics:

Chapter 1: Slope and Rate of Change

- 1.1. Rise Over Run
- 1.2. Grade, Angle of Elevation, and Distance
- 1.3. Rate of Change

Chapter 2: Graphical Representation

- 2.1. Broken Line Graph
- 2.2. Bar Graph
- 2.3. Histogram
- 2.4. Circle Graph

Chapter 3: Surface Area, Volume, and Capacity

- 3.1 Surface Area of Prisms
- 3.2 Surface Area of Pyramids, Cylinders, Spheres, and Cones
- 3.3 Volume and Capacity of Prism and Cylinders
- 3.4 Volume and Capacity of Spheres and Cones, and Pyramids

Chapter 4: Trigonometry of Right Triangles

- 4.1 Solving for Angles, Lengths and Distances
- 4.2 Solving complex Problems in the Real World

Chapter 5: Scale Representations

- 5.1 Scale Drawing and Models
- 5.2 Two – Dimensional Representations
- 5.3 Three- Dimensional Representations

Chapter 6: Financial Services

- 6.1 Choosing an Account
- 6.2 Simple and Compound Interest
- 6.3 Credit Cards and Store Promotions
- 6.4 Personal Loans, Lines of Credit, and Overdraft

Chapter 7: Personal Budgets

- 7.1 Preparing to Make a Budget
- 7.2 The Budgeting Process
- 7.3 Analyzing a Budget

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 20-3 Section G

Meldee Helgason, Instructor

Lisa Turner, Chair

Date Authorized

Guy Harmer, Dean

Date Authorized