

MATH 20-3M, MATHEMATICS 20-3

5 credits, 16 weeks, 5 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.

Prerequisite: Math 10-3

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 / Wednesday 9.00 – 11.00 Thursday 9.00 – 10.00

Required Resources

1. Mathworks 11 – Pacific Educational Press ISBN 978-0-9867141-3-9
2. Geometry set
3. Scientific calculator
4. Binder, lined paper, pencils
5. Teacher prepared materials as required.

Course Outcomes

It is expected that students will:-

- Solve problems that require the manipulation and application of formulas related to slope and rate of change.
- Demonstrate an understanding of slope as rise over run and rate of change by solving problems.
- Solve problems that involve creating and interpreting line graphs, including bar graphs, histograms, line graphs and circle graphs.
- 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 require the manipulation and application of formulas related to: volume and capacity; surface area.
- Solve problems by applying proportional reasoning and unit analysis.
- 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.
- Demonstrate an understanding of simple and compound interest.
- 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 simple interest and finance charges.
- Solve problems that involve personal budgets.
- Solve problems that involve creating and interpreting graphs, including bar graphs, histograms, line graphs and circle graphs.

Evaluation

Module Assignments	70%
Final Exam	30%
Total	100%

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

Grading System

Descriptor	4.0 Scale	Percent
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

Proposed Schedule of Topics

WEEK	DATES	UNIT	TOPIC	TESTS
1 & 2	Jan 5 – 16	1	Slope and Rate of Change. Rise over Run; Grade, Angle of Elevation and Distance; Rate of Change.	Jan 16
3 - 5	Jan 19 – Feb 6	2	Graphical Representations. Broken Line Graphs; Bar Graphs; Histograms; Circle Graphs.	Feb 6
6 - 7	Feb 9 – 20	3	Surface Area, Volume and Capacity. Surface Area of Prisms; Surface Area of Pyramids, Cylinders, Spheres & Cones; Volume and Capacity of Prisms & Cylinders; Volume & Capacity of Spheres, Cones & Pyramids.	Feb 20
8	Feb 23 - 27		Reading Week	
9 - 10	Mar 2 - 13	4	Trigonometry of Right Triangles. Solving for Angles, lengths and Distances; Solving Complex Problems in the Real World.	Mar 13
11-12	Mar 16 - 27	5	Scale Representations. Scale Drawings and Models; 2-D Representations; 3-D Representations.	Mar 27
13 -14	Mar 30 –	6	Financial Services.	Apr 10

	Apr 10		Choosing an Account; Simple and Compound Interest; Credit Cards & Store Promotions; Personal Loans, Lines of Credit & Overdrafts.	
15 & 16	Apr 13 - 22	7	Personal Budgets. Preparing to Make a Budget; The Budgeting Process; Analyzing a Budget.	Apr 22
	Apr 24 - 29		Final Exam Week	Apr 24th

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.

[First Name, Last Name], Instructor

Lisa Turner, Chair

Date Authorized

Guy Harmer, Dean

Date Authorized

Signed copies to be delivered to:

Instructor

Registrar's Office