

Math 30-3F, Mathematics 30-3

5 credits, 16 weeks, 5 hours lecture

The focus on the development of spatial sense introduces an understanding of the limitations of measurement tools in terms of precision, accuracy, uncertainty, and tolerance. Students perform translations, rotations, reflections and dilations on 2D and 3D models. Within the topic of linear relations, students demonstrate proficiency in graphing, formula manipulations, interpolations and extrapolation. Students critique the viability of small business options by considering expenses, sales and profit/loss statements. Statistical reasoning is developed through study of measure of central tendency and the analysis of probability.

Prerequisite: Completion of Math 20-1, 20-2, or 20-3 or equivalent or permission from the Program Chair.

Instructor Name: Maureen Clarke

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Office Hours

Monday 8:30 – 9:00; 3:00 – 3:50

Tuesday 8:30 – 9:00; 3:00 – 3:50

Wednesday 3:00 – 3:50

Thursday 3:00 – 3:50

Hours of Instruction

Monday 9:00 – 9:50; 10:00 – 10:50

Tuesday 9:00 – 9:00 – 9:50

Wednesday 9:00 – 9:50; 10:00 – 10:50

Required Resources**Textbook title,**

MathWorks 12 Workbook

Pacific Educational Press

Vancouver, Canada

ISBN: 978-0-9865108-5-4

Course Outcomes

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 30-3, students will be able to:

- Demonstrate an understanding of linear relations by recognizing patterns and trends, graphing, creating tables of values, writing equations, interpolating and extrapolating, and solving problems.
- Demonstrate an understanding of the limitations of measuring instruments, including precision, accuracy, uncertainty, tolerance, and solve problems.
- Solve problems that involve measures of central tendency, including mean, median, mode, weighted mean, and trimmed mean.
- Analyze and interpret problems that involve probability.
- Solve problems by using the sine law and cosine law, excluding the ambiguous case.
- Solve problems that involve triangles, quadrilaterals, and regular polygons.
- Demonstrate an understanding of transformations on a 2-D shape or a 3-D object, including translations, rotations, reflections, and dilations.
- Solve problems that involve the acquisition of a vehicle by buying, leasing, and leasing to buy.
- Critique the viability of small business options by considering expenses, sales, and profit or loss.

Evaluation

Assignments	20%
Quizzes/Tests	30%
Midterm Exam	20%
Final Exam	30%
Total	100%

The minimum pre-requisite for progression is 1.7 (refer to Grading System below)

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

Chapter 1: Linear Relations	Jan 5 - 8
1.1 Linear Relations in Tables and Graphs	
1.2 The Equation of a Line	
1.3 Scatterplots and Linear Trends	
Chapter 2: Limits to Measurement	Jan 12 - 20
2.1 Accuracy and Precision	
2.2 Tolerances	
Chapter 3: Statistics	Jan 21 – Feb 5
3.1 Mean, Median and Mode	
3.2 Weighted and Trimmed Means and Outliers	
3.3 Percentile Ranking	
Chapter 4: Probability and Odds	Feb 9 - 17
4.1 Experimental Probability	
4.2 Theoretical Probability	
Chapter 5: Properties of Geometric Figures	Oct 16 - 30
5.1 Triangles	
5.2 Quadrilaterals	
5.3 Regular Polygons	
Chapter 6: Transformations	Mar 16 - 23
6.1 Single Transformation	
6.2 Multiple Transformations	
Chapter 7: Trigonometry	Mar 24 – Apr 8
7.1 The Sine Law	
7.2 The Cosine Law	
Chapter 8: Owning a Small Business	Apr 9 - 16
8.1 Start a Small Business	
8.2 Operate a Small Business	
8.3 Buy or Lease a Vehicle for Your Business	
Review and Completion of Outstanding Work	Apr 20 - 22

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.

Performance Requirements**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.



Maureen Clarke, Instructor

Lisa Turner, Chair

Date Authorized

Guy Harmer, Dean

Date Authorized

Signed copies to be delivered to:

Instructor
Registrar's Office