MATH 10C, Mathematics 10C

6 credits, 6 hours lecture

Course Description

Topics covered include linear SI metric and Imperial measurement and conversions; surface area and volume of 3D objects; right triangle trigonometry; apply the power laws with integral and rational exponents; perform all operations (addition, subtraction, multiplication, division) on polynomials; factor polynomials; identify, describe, interpret and analyze relations and functions; evaluate functional notation; determine domain and range; graph and define linear relations; solve linear systems of two relations.

Alberta Education Course Equivalency: Math 10C

Pre and Co-requisites

Prerequisite: AFM 100 or equivalent or permission of the Program Chair

Course Learning Outcomes (CLOs)

Upon successful completion of the course, the student shall be able to:

CLO 1 develop and apply the primary trigonometric ratios to solve problems that involve right triangles
CLO 2 demonstrate an understanding of powers with integral and rational exponents
CLO 3 demonstrate an understanding of factors of whole numbers by determining the

- Prime factors
- Greatest common factor
- Least common multiple
- Square root
- Cube root

CLO 4 demonstrate an understanding of irrational numbers by

- representing, identifying and simplifying irrational numbers
- ordering irrational numbers

CLO 5 demonstrate an understanding of the multiplication of polynomial expressions (limited to monomials, binomials and trinomials)
CLO 6 demonstrate an understanding of common factors and trinomial factoring
CLO 7 interpret and explain the relationships among data, graphs and situations
CLO 8 demonstrate an understanding of relations and functions
CLO 9 demonstrate an understanding of slope with respect to:

- rise and run
- line segments and lines
- rate of change
- parallel lines
- perpendicular lines

CLO 10 describe and represent linear relations, using
- words
- ordered pairs
- table of values
- graphs
- equations

CLO 11 represent a linear function, using functional notation
CLO 12 determine the characteristics of the graphs of linear relations, including the:
- intercepts
- slope
- domain
- range

CLO 13 relate linear relations expressed (in the following formats) to their graphs:
- slope-intercept form ($y=mx+b$)
- general form ($Ax+By+C=0$)
- slope-point form $(y-y_1=m(x-x_1))$

CLO 14 determine the equation of a linear relation (given the information below) to solve problems
- a graph
- a point and the slope
- two points
- a point and the equation of a parallel or perpendicular line

CLO 15 solve problems that involve systems of linear equations in two variables, graphically and algebraically.

Evaluation

Assessment Type	Percentage
Assignments	20%
Quizzes	10%
Midterm Exam (Chapters 2, 3, 4)	35%
Final Exam (Chapters 5, 6, 7)	35%

Course Completion Requirements

Minimum passing mark of 50% or D is required.

Grading Scale

4.0 Grade Scale	Alpha Grade	Percentage Grade
4.0	A+	93-100
4.0	A	85-92.9
3.7	A-	80-84.9
3.3	B+	77-79.9
3.0	B	74-76.9
2.7	B-	70-73.9
2.3	C+	67-69.9
2.0	C	64-66.9
1.7	C-	60-63.9
1.3	D+	55-59.9
1.0	D	50-54.9
0.0	F	0-49.9

Land Acknowledgement

We respectfully acknowledge that Keyano College is on Treaty No. 8 Territory, the ancestral and traditional territory of the Cree, Dene, and Métis people.

Review Date: November 26, 2024

Every effort has been made to ensure that information in this course outline is accurate at the time of publication. Keyano College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.

Keyano College reserves the right to modify the syllabus, curriculum, or schedule of any course/program, or to cancel a course/program entirely, at any time and for any reason. Such changes may be necessary due to unforeseen circumstances, regulatory requirements, or to ensure the highest quality of education.

Students will be notified of any significant changes as soon as possible. Keyano College is not responsible for any inconvenience or disruption caused by these changes. It is the responsibility of the students to stay informed about any updates or modifications to their courses.